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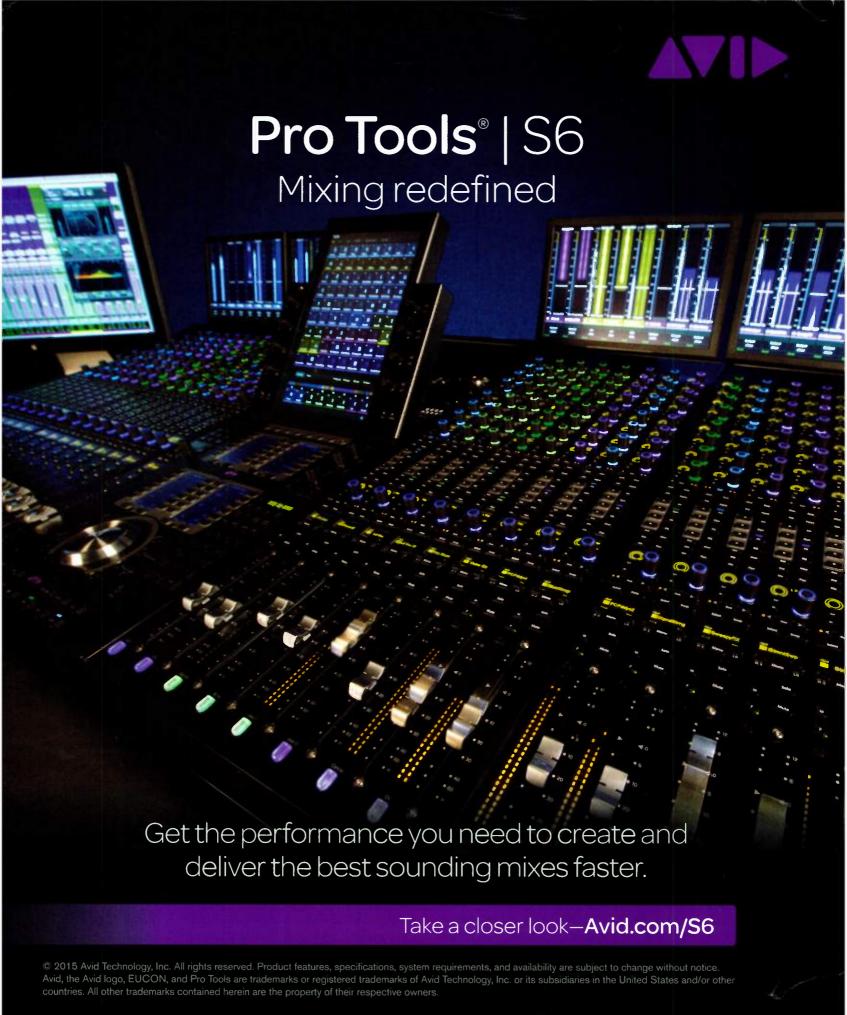
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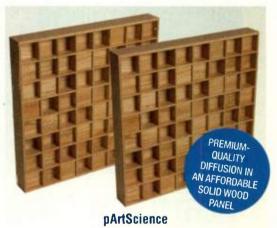
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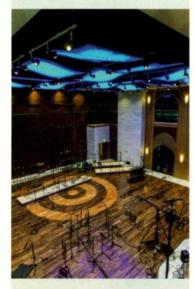
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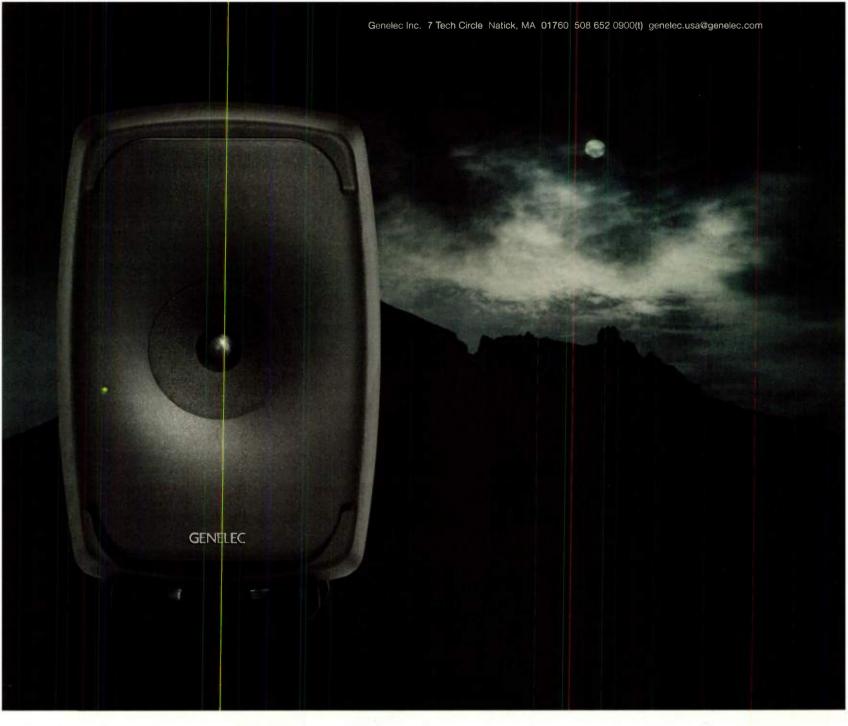
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On the Cover: Studio A at Studio 28, Bangkok, Thailand Photo: doo Arai-D.

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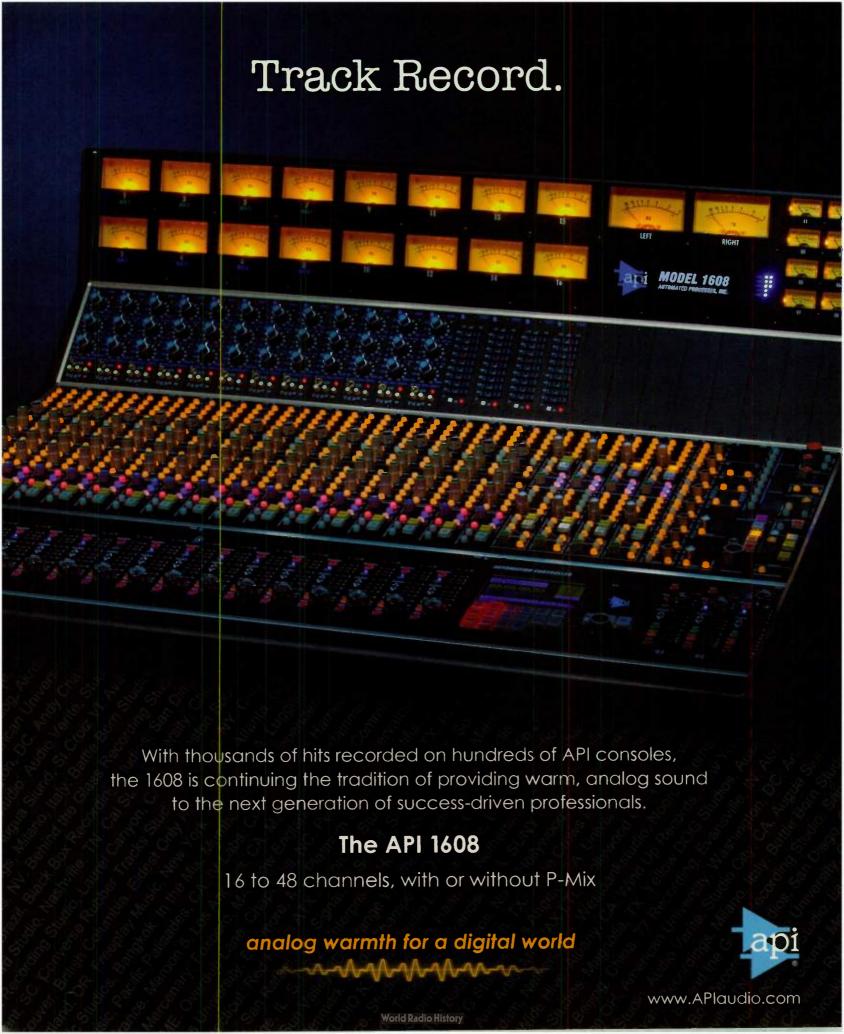
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COMPILED BY THE MIX EDITORS

From the Editor

WHAT IS A RECORDING STUDIO?

ack in 1989 when I walked into John Mellencamp's Belmont Mall Studios off Highway 46 east of Bloomington, Ind., I had no idea that I was looking into the future. It was my first visit to a "real" studio, and I had no background to make the distinction between a private and commercial facility. There was a Trident 80 console, a Studer 24-track, JBL mains with Yamaha NS-10s on the bridge, and a big live room with a tall ceiling and perforated radio-station pegboard on the walls to break up drummer Kenny Aronoff's monster beating. It was a studio. A great one. Simple as that.

Mellencamp has made a series of phenomenal records there since the mid-1980s, and bandmates/producers Toby Myers and Mike Wanchic have made use of it over the years to record local bands and pet projects. To a first-year editor, born and raised a few hours to the north, this was the big-time! I had yet to visit Record Plant, Electric Lady, the Village. Paisley Park, Criteria. the late-great Hit Factory or any of the other legendary facilities that defined "recording" over the previous couple of decades. And I still had much to learn about music, budgets, lease payments, vintage gear, the emergence of digital recording and the shifts on the business side of the industry. At this point I was just listening to music, great music, in a fantastic-sounding space. I was in heaven, and I was hooked.

Then, after returning from the trip, fellow editor Linda Jacobsen and I became involved in a news story out of Los Angeles involving producer Chas Sandford and an ad hoc coalition of studio owners known as the Hollywood Association of Recording Professionals. Sandford had put an SSL in his Hollywood home and built out a professional space to record, mix and produce in a residential area. He was a name, and he was targeted by commercial studio owners, hoping to head off the coming boom in home-based recording by

raising the specter of zoning laws and municipal ordinances. It got ugly at times, but the ship had sailed.

It used to be easy. Recording studios were either "big," which translated to commercial, or "small," which typically meant private. There were all kinds of variations within each, based on the track count of the recorder, number of rooms and size of the live space, but basically "big" studios were considered serious and "small" studios were for artists at home.

Of course, then the "project studio" emerged, the "private studio" became more common, and a few major studios in major markets disappeared. The middle class suffered, as it did in a lot of industries, and reports began circulating about the demise of the industry.

But it was hardly a death knell. Studios are still being built and music and sounds are still being produced, in greater volume than ever before. It's simply a different industry, one that involves laptops and file exchange and multi-location production. The lower barrier of entry for an artist/producer/engineer has changed the game, but a studio is still a studio, and a quality recording is still a quality recording.

I'm reminded of these trends each year when we do our annual "Class Of ..." issue, highlighting acoustic design. Looking through our cover story, in 2015, you will see major facilities going up all around the world, along with private facilities outside the traditional recording centers. These are superb spaces, whether commercial or private, and they reflect the way audio is being created today.

Making a great recording of a great song is what this industry is all about. I realized that first back at Belmont Mall, some 26 years ago, and I'm reminded of it every time I hear a great song in a great space.

Tom Kenny Editor

InfoComm 2015

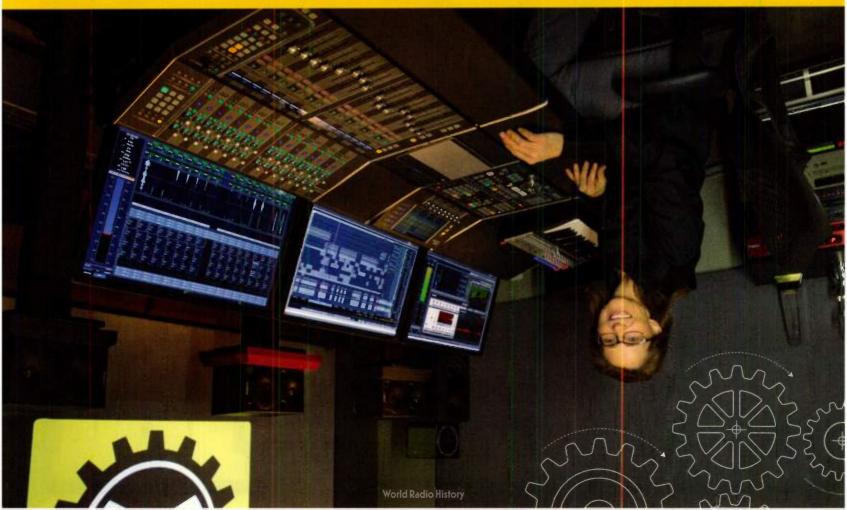
This year's InfoComm tradeshow will be held in the Orange County Convention Center in Orlando, Fla., with conferences taking place from June 13-19 and exhibits open June 17-19. InfoComm includes more than 250 leading exhibitors in all facets of audio technology solutions for both live events and fixed installations.

Audio Demo Rooms, open Tuesday through Friday, have scheduled RCF, PreSonus, L-Acoustics, Coda Audio, Pioneer DI, OSC Audio, Electro-Voice,

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Plus, InfoComm University offers training and hands-on workshops. One education session of note: A three-day seminar called Sound Reinforcement for Technicians, presented by SynAudCon.

Find detailed information at www.infocommshow.org.



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Based in Los Angeles, re-recording mix engineer and sound designer, Michelle Garuik is also co-founder and owner of Grind Music & Sound, Inc. Having expertise in mixing and sound design for adventure sport television and documentary film, Michelle's clients include industry giants such as Fox Sports, ESPN, NBC Universal, HBO and much more.

With clients spanning the entertainment industry, Michelle's everyday workload is anything but ordinary. To assist with her artistry, she relies on Yamaha's NUAGE Advanced Production System. We asked Michelle what she loved about NUAGE. In her words...

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- Michelle Garuik









RHETT MILLER MEETS BLACK PRAIRIE

Old 97's Frontman Takes 'Traveler' Songs to New Places // By Barbara Schultz

or almost 20 years, Rhett Miller has fronted the Americana-fied rock 'n' roll band Old 97's, bringing his abundant songwriting ideas and energy to more than a dozen albums. In May 2014, Mix briefly profiled the 97's most recent record, Most Messed Up, a high-octane concept album about the pleasures and darkness of music and debauchery on the road. Well, it turns out that Miller wrote more than enough songs for Messed Up—so many more that he had enough for a different project: The Traveler, a full-length album with the Americana band Black Prairie.

"We opened for Rhett on a string of shows about three years ago," says musician/producer Chris Funk, who plays in Black Prairie and in indie folk-rock band The Decemberists. "We had a full band and he was playing solo as a headliner, so it was a natural thing that we should play some songs together. After that, he was like, 'We should make a record together.'

"Fortunately he held us to it," Funk continues. "I guess he'd heard that I produce records on the side, so he asked me to oversee production, and off we went."

Miller brought a selection of songs out to

Black Prairie country-Portland, Ore.-to work up arrangements with the musicians. "He and most of the band came over to my house and we jammed on ideas," Funk says. "But even once we got into the studio, there was a lot of arranging on-the-fly."

Band tracking happened live to an Otari MTR90 24-track machine in Larry Crane's Jackpot Studio, with engineer Adam Selzer and Funk behind the glass. "Because we were recording with a core band, which I'm part of, we already had a sound in mind," says Funk, who would add his own overdubs later in his

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personal facility, Walker Studio.

"To sit back as a producer and imagine yourself in the song is a strange approach," Funk says. "I actually fought playing on a lot of it, but Rhett was like, 'No you gotta be on there!' It was part of the spirit of the project. So I would say, 'Leave a solo spot for me here,' so when I did my overdubs there would be space.

"Black Prairie basically identifies as Americana, so everything we did started in that realm." Funk continues, "but Rhett wanted to stretch it, and Jon Neufeld, the guitar player, was excited to strap on the electric and give that a shot. There's a song called 'Good Night' toward the end that has psychedelic moments, for example."

In Jackpot, most of the musicians were situated in the live room, while Miller sang in a vocal booth, and drums were in the small. dead-ish booth called "the '70s room." "We were experimenting with that space, and even used kick drums like marching drums in there; it sounded pretty cool," Funk says. "I think Larry tends to shy away from putting drums in that room, but we thought we were being really brave!"

The lineup in the live room included Nate Query (who also plays with Funk in Decemberists) on upright or electric bass, Neufeld playing acoustic or electric guitar, and violin/strings player Annalisa Tornfelt.

"We put the amps in the isolation room with the drums," Selzer says. "With some of the quieter acoustic stuff, like when Jon was playing acoustic or Annalisa playing fiddle, a lot of times they would be in an iso room. But we weren't trying to avoid bleed at all costs; it was definitely part of capturing a live band."

Selzer miked Neufeld's guitar amps with Royer 121s and his Archtop acoustic with a Telefunken U47. The fiddle mic was an AEA R84 ribbon. "I have one of those at my studio [Type Foundry] as well," Selzer says. "They take EQ really well, but they also smooth out any upper harshness you might get on fiddle."

In the vocal booth, Miller sang into a Soundeluxe E47 microphone, which went through a Pacifica preamp as well as a UREI 1176 compressor. Almost everything else went to the pre's in Jackpot's Rupert Neve Designs 5088 console. Funk says that many of the live vocal takes were keepers, but he did re-cut some vocal parts, as well as his instrument overdubs, to Logic in his studio.

"For me, the most important stuff to get [to analog tape] are the drums and the bass, and I love getting electric guitars," Funk says. "It saturates in a really cool way without having to work at it. But my tape machine is an MCI 16-track, so it wasn't compatible with the session; so, we just switched to digital at that point."

Funk's parts on The Traveler include multiple instruments and touches throughout the album, including dobro, guitars, bouzouki, Marxophone and bells-mostly miked with an AEA R84—as well as samples here and there. Another secret ingredient added at Funk's studio: R.E.M.'s Peter Buck.

"Peter played on two tracks," Funk says. "On the song 'Jules,' you can hear his electric 12-string—one of his signature moves—and he played mandolin on 'My Little Disaster,' which I'm sure I used the R84 on also. I like to use ribbon mics on the plunkier folk instruments, dark ribbons.

"Peter's funny," Funk says. "He'll show up and play whatever: 'What have you got there? It's fine.' So he used one of my amps; there's a company called Weber in Indiana that makes these amazing speakers, but they also make kits. They sent me a kit for a '54 Deluxe-type amp. I never got around to building it, but a friend of mine assembled the entire thing for me for my birthday. So we used that, and I think we also used a Carr Mercury, a really low-wattage amp. I like to split and use two amps to get two different tones."

"All of the players on this album are so musical and so talented, you can throw anything at them and they'll come up with an interesting idea," Selzer observes. "Rhett came in with great songs, and everybody came in with great parts. Pairing his songs with Black Prairie was a really good fit."

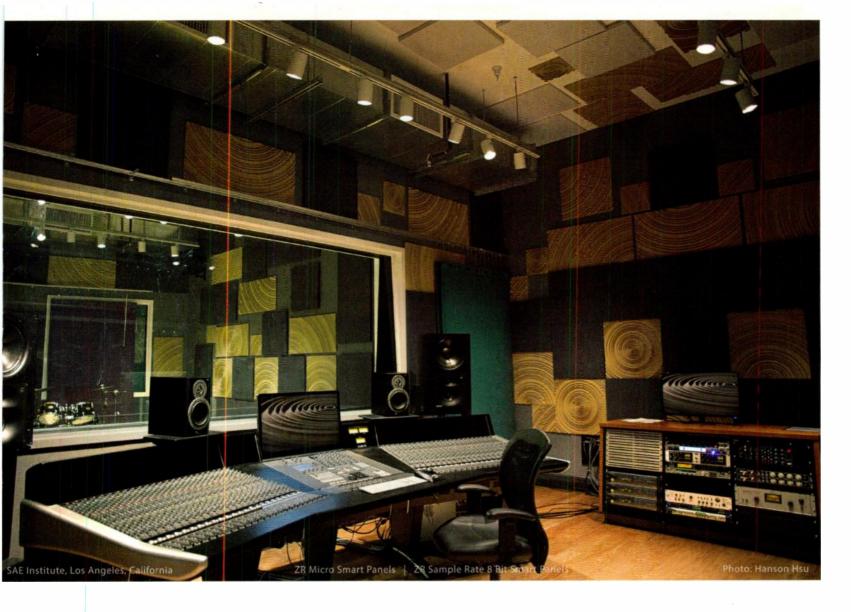
JAMES TAYLOR, **'BEFORE THIS WORLD'**



ames Taylor's Before This World, out this month on Concord Records, is the Grammy Award-winning singer/songwriter's first album of original music since 2002's October Road. The new release presents Taylor with his stellar band, and guest artists include Sting and Yo-Yo Ma. Taylor's longtime friend and collaborator Dave O'Donnell produced, recorded and mixed the effort, working with engineer Rick Kwan and assistant engineers Tyler Hartman, Scott Moore, Fernando Lodeiro, Tommy Joyner, Justin Rose and Jay Zubricky.

The project was headquartered at Taylor's home studio in Massachusetts, TheBarn, with additional tracking at United Recording in Hollywood, Avatar in New York City, MilkBoy the Studio in Philadelphia, GCR Audio in Buffalo, N.Y., and Four Seasons Hotels in Los Angeles and San Francisco. Of TheBarn, O'Donnell says, "It's out in the woods, so it's fairly quiet. We bring in the gear we need. I have a Yamaha DM 2000 for monitoring and we brought in Neves, APIs, some Millennia, and Seventh Circle Audio mic preamps that you can build from a kit." O'Donnell recorded the album to Pro Tools at 96k.

"Because James was away all year on the road, we decided to mix on the DM 2000 with a bunch of analog gear, so we could work in my studio and back at TheBarn," O'Donnell says. "I would set up the mixes and get them in shape, and then James would listen and give his input. The song draws you in; it's centered around the vocal, and all those added elements are there to enhance the music, but not distract from it. So when mixing, you start by capturing the feel of the track as it was originally laid down, and go from there. Any time I tried to push things to be louder or brighter, it just seemed that the emotion got lost. You just need to let the music lead the way."-Matt Gallagher



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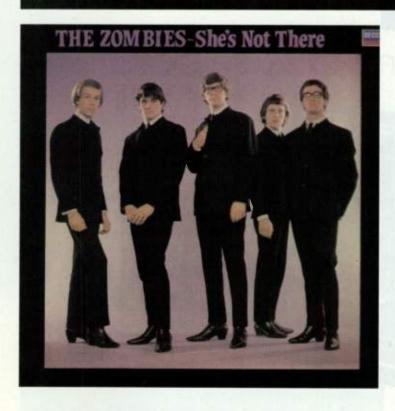
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Classic Tracks

By Robyn Flans



"SHE'S NOT THERE"

The Zombies

f one of the defining characteristics of a Classic Track is its immediate recognition, then The Zombies' "She's Not There" is as classic as it comes. One of its atypical characteristics, the distinctive opening bass notes and subsequent line that continues throughout the track, surely helped the band win the 1964 Hert's Beat Competition, which earned them a recording contract with Decca Records. On the map and on their way.

The band had gotten together when they were 15-year-old schoolmates in 1961 in their hometown of St. Albans, England. Keyboardist Rod Argent recruited some of the members, as lead vocalist Colin Blunstone remembers, based on the alphabet. "We sat in class in alphabetical order, and I had a guitar," Blunstone recalls.

Then after they won the competition, according to Blunstone, and just two weeks prior to their big recording session, producer Ken Jones said, "You could always try to write something."

"We were going to just do covers," Blunstone says. "After he suggested that, right away we started talking about other things and I forgot all about it, but two days later, Rod Argent came back and he had written 'She's Not There.' Even I thought, 'This song is remarkably good."

It was only the third song Argent had ever penned (bassist Chris White wrote what turned out to be the B-side, "You Make Me Feel Good"), and the minor chords of "She's Not There" were inspired by Argent's love of jazz. He wrote that opening bass downbeat into the song for White to play, just as he wrote the infectious catchy bass line that is integral to the composition.

"It was part of what I originally played around the chord sequence at the beginning of the verses," Argent explains. "I said to Chris [White], 'Can you play this please?'" Argent also wrote the signature hooky drum part into the song as well, which he says original drummer Hugh Grundy "played great." "And then in the next section, that was all Hugh," Argent says. "It was the opening bass and drum riff that I wrote.

"Around that time I had been turned on by the Miles Davis Group with John Coltrane and Cannonball Adderley, and occasionally Bill Evans," he says. "The first album of Miles Davis' that I really adored was Milestones with Red Garland on it. I didn't know at that time what modal music was, but I imbibed so much of what Miles was doing at the time, some of those elements, quite unconsciously, came out in the writing of those early songs."

Argent says that years later, when he met Pat Metheny, Metheny remarked about the "wonderful modal stuff" on "She's Not There."

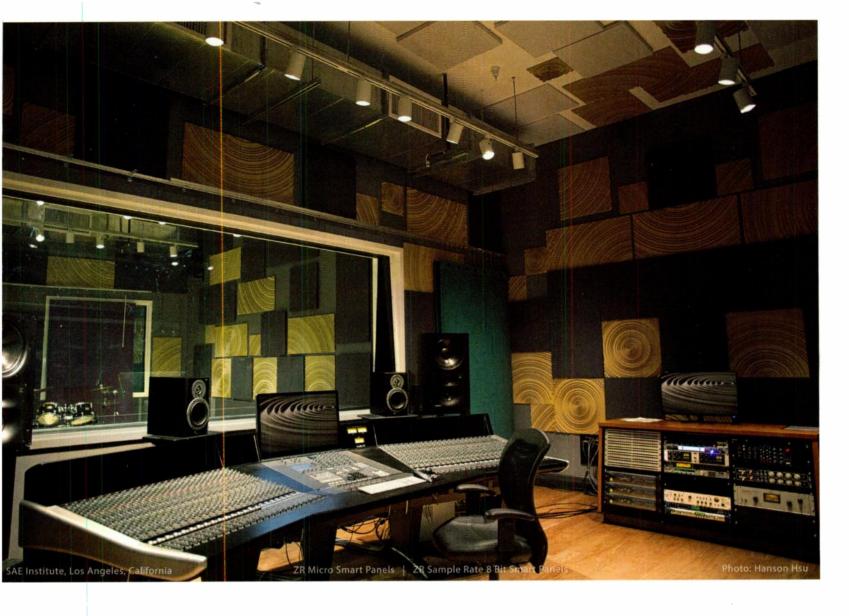
"I thought, 'There's no modal stuff on there,' but I went back and started playing it and thought, 'You know what? He's right." Argent laughs. "Whereas I thought the first two chords were A minor to D major, the way I actually played the chords, I played a little motif over it, which was actually a very modal motif and it was just unconscious."

Before realizing that, though, Argent had wanted to start the verse with a minor chord and had an idea of having the song in three sections, which actually goes into a major chord and ends on a minor chord.

His keyboard solo was also jazz influenced, which Argent says the Byrds once told him in turn influenced "Eight Miles High."

"They told me that [the solo] made them realize they could put jazz-inflected music on a rock 'n' roll record," Argent says. "But at the time, I didn't think of it as jazzy. I thought I was writing a Beatles song. Once it goes through your own filter, all these other things come out. But right from the beginning of The Zombies, even when we were just semi-pro, and even before we had heard anything of the Beatles, two things happened: We always experimented with harmony, which was unusual for rock 'n' roll at that time, and I was always interested in improvising solos."

In fact, at the contest where the band scored that Decca contract, they played the classic "Summertime," on which Argent played an extended solo.



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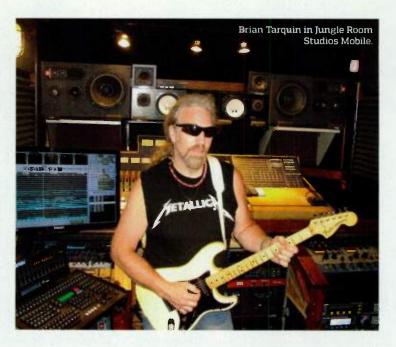
JUNGLE ROOM STUDIOS MOBILE

Throughout his 25-year career in music, Brian Tarquin-guitarist, recording artist, Emmy Award-winning TV music composer, label owner and book author-has depended upon his recording/mixing facility, Jungle Room Studios, as his base of operations. He first built Jungle Room in Los Angeles, and then moved to Nyack, N.Y., in 2003. In 2011, Tarquin moved his studio and family into a 200-year-old farmhouse in The Catskills that was once owned by his parents. Then, in late October 2012, came Hurricane Sandy.

"It was odd because we were a hundred miles from the shore," Tarquin remembers. "All of the electrical went down, and it was getting cold there." On Halloween night 2012, Tarquin turned on an old Ben Franklin stove in the living room, took his family out to eat, and then returned to a fire that had destroyed the second floor. "Luckily, the side where the studio was wasn't touched," he says. "We had to live in an RV for a month and try to figure out what was going on."

Recently, Tarquin moved his studio into a mobile recording trailer. "It was custom made in Anaheim, California, with 10-foot ceilings and with two separate rooms inside, live and control room," he says. "I've also moved to using the RADAR recording system, because of the sheer superiority of its converters. So I use an Otari MTR-90 analog tape machine for basic tracks and bounce down to the [iZ Technology] Otari RADAR II, the best of both worlds without compromising on sound quality."

He is currently working on a followup to his 2014 album release,



Guitars for Wounded Warriors; the new project is called Brian Tarquin & Heavy Friends REDUX. "Growing up I was used to seeing all these veterans from Vietnam just not be treated right. I wanted to give back." -Matt Gallagher



JAGA JAZZIST RECORDS 'STARFIRE'

Jaga Jazzist is a prog-rock band, a jam band, a jazz ensemble and an electronic outfit all in one. The eight-piece Swedish group records differently on its sixth studio full-length, Starfire, even if the final result doesn't sound too far away from its predecessors.

Until Starfire, the members of Jaga Jazzist spent months rehearsing new material prior to recording. This time central figure Lars Horntveth decamped to Los Angeles with his Pro Tools rig, Universal Audio Apollo, and Purple Sweet Ten Lunchbox with two Neve 1073LB mic preamps, two Neve 1073 EQs, two Skibbe 736-5 preamps, two API 512C preamps, and two Neve compressors. Also essential parts of his setup are a Prophet-5, a vintage Roland string synth, a piano used as an arpeggio synthesizer, and a number of soft synths. The start of the songs are synthetic and so the individual Jaga Jazzist musicians are brought in to make the sounds acoustic and organic.

"It was much more constructed," says Horntveth of Starfire's development. "I wanted to bring the band in one on one and try to get the most of each person. When people have a chance to do more, not just think about the part they're supposed to play but really indulge in the music and be creative, they can participate more in the music than they would have if we were nine people in the same room."

With the five songs on Starfire each clocking in at more than 10 minutes, there was a lot of room for exploration within the tracks. The idea was to not have a traditional strong structure with verses, bridges and choruses, but rather, a flow. The title track, for instance, took three years to put together out of three different sessions. In retrospect, Horntveth believes bouncing the potential parts of each session into Ableton for construction would have been easier, particularly for the guitar portion at the start of "Starfire" and the electronic half-beat that comes later.

"An early idea for this album was presenting a song, then later in the song, doing a remix of the same song," Horntveth says. "For 'Oban,' after the arpeggio bass synthesizers with romantic strings [which was written for a Swedish radio theater piece four years agol, it goes back to the 'verse' but in a different setting which is more like a 4/4 house beat and then explores something very different from earlier in the song."—Lily Moayeri

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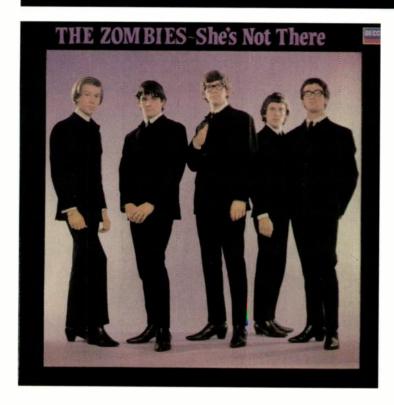
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Classic Tracks

By Robyn Flans



"SHE'S NOT THERE"

The Zombies

f one of the defining characteristics of a Classic Track is its immediate recognition, then The Zombies' "She's Not There" is as classic as it comes. One of its atypical characteristics, the distinctive opening bass notes and subsequent line that continues throughout the track, surely helped the band win the 1964 Hert's Beat Competition, which earned them a recording contract with Decca Records. On the map and on their way.

The band had gotten together when they were 15-year-old schoolmates in 1961 in their hometown of St. Albans, England. Keyboardist Rod Argent recruited some of the members, as lead vocalist Colin Blunstone remembers, based on the alphabet. "We sat in class in alphabetical order, and I had a guitar," Blunstone recalls.

Then after they won the competition, according to Blunstone, and just two weeks prior to their big recording session, producer Ken lones said, "You could always try to write something."

"We were going to just do covers," Blunstone says. "After he suggested that, right away we started talking about other things and I forgot all about it, but two days later, Rod Argent came back and he had written 'She's Not There.' Even I thought, 'This song is remarkably good."

It was only the third song Argent had ever penned (bassist Chris White wrote what turned out to be the B-side, "You Make Me Feel Good"), and the minor chords of "She's Not There" were inspired by Argent's love of jazz. He wrote that opening bass downbeat into the song for White to play, just as he wrote the infectious catchy bass line that is integral to the composition.

"It was part of what I originally played around the chord sequence at the beginning of the verses," Argent explains. "I said to Chris [White], 'Can you play this please?'" Argent also wrote the signature hooky drum part into the song as well, which he says original drummer Hugh Grundy "played great." "And then in the next section, that was all Hugh," Argent says. "It was the opening bass and drum riff that I wrote.

"Around that time I had been turned on by the Miles Davis Group with John Coltrane and Cannonball Adderley, and occasionally Bill Evans," he says. "The first album of Miles Davis' that I really adored was Milestones with Red Garland on it. I didn't know at that time what modal music was, but I imbibed so much of what Miles was doing at the time, some of those elements, quite unconsciously, came out in the writing of those early songs."

Argent says that years later, when he met Pat Metheny, Metheny remarked about the "wonderful modal stuff" on "She's Not There."

"I thought, 'There's no modal stuff on there,' but I went back and started playing it and thought, 'You know what? He's right." Argent laughs. "Whereas I thought the first two chords were A minor to D major, the way I actually played the chords, I played a little motif over it, which was actually a very modal motif and it was just unconscious."

Before realizing that, though, Argent had wanted to start the verse with a minor chord and had an idea of having the song in three sections, which actually goes into a major chord and ends on a minor chord.

His keyboard solo was also jazz influenced, which Argent says the Byrds once told him in turn influenced "Eight Miles High."

"They told me that [the solo] made them realize they could put jazz-inflected music on a rock 'n' roll record," Argent says. "But at the time, I didn't think of it as jazzy. I thought I was writing a Beatles song. Once it goes through your own filter, all these other things come out. But right from the beginning of The Zombies, even when we were just semi-pro, and even before we had heard anything of the Beatles, two things happened: We always experimented with harmony, which was unusual for rock 'n' roll at that time, and I was always interested in improvising solos."

In fact, at the contest where the band scored that Decca contract, they played the classic "Summertime," on which Argent played an extended solo.

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Argent confesses that he knew nothing about songwriting when he wrote "She's Not There," but realizes that may have been why the song was such a success.

"I remember saying to Colin [Blunstone] that you only have the naiveté and arrogance of youth once," he says. "When our producer said, 'Why don't you try to write something for the session,' I thought, 'Yeah, I can write something that's as good as the Beatles and Colin will sound great singing it and it will be a

Number One record.' It's because you have absolutely no knowledge of everything that can go wrong and how everything has to happen just



right for it all to work. And it was just so lucky. Colin was great singing it."

And yes, some things went wrong, but turned out all right at the session—their very first, still only 18 years old—the most prominent being that engineer Terry Johnson had been to a wedding before he showed up at the studio, intoxicated.

"He started insulting us as we were recording," Argent recalls, laughing. "We were doing 'You Make Me Feel Good,' and I sorta went

'mmmm' at one point, and he started yelling, 'If you're going to f***ing "mmmm," we're not going to do it, and don't just stand there like a wuss,'

and I thought, 'Oh my God, what's going on?' Colin was saying to me, 'If this is being a professional musician, I don't think I want to know."

As luck would have it, Johnson passed out.

"Colin got hold of one arm and I got hold of the other," Argent says. "Chris got hold of one leg and Hugh got hold of the other and we carried him out to a London Cab and sent him home."

As luck would have it, the assistant engineer, also on his first-ever session, was the now-legendary Gus Dudgeon, who supervised a date that included the recording of "Summertime," "It's Alright With Me," "You Make Me Feel Good" and "She's Not There."

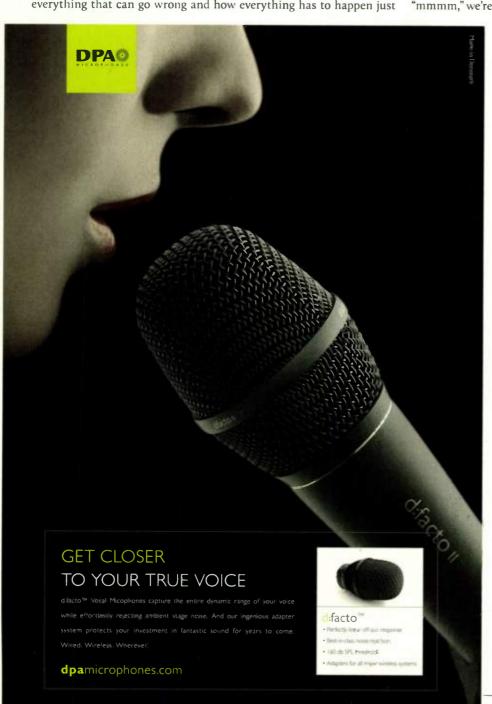
"We would record the backing track first, on two tracks—that would be the keyboards, the bass, drums and guitar," Argent remembers. "And then we would do the lead vocal on a separate track. We would do the harmonies at the same time, but on their own track."

Argent says that he is pretty sure they used a Neumann U 47 tube microphone on the vocal. The electric piano was a Hohner Pianet.

"The original version of the Pianet was brilliant, but it had a limited life because there were little sticky pads, and when you pressed the key down, the little sticky pad came off and eventually the little metal thing would break away from the sticky pad and go 'boing,'" Argent explains. "As you can imagine, that stickiness had a limited life. They had later versions that were more reliable but never quite had the same sound. I loved that Pianet. It had a very biting, groovy sound to it. Manfred Mann was the other guy who used one of those at the time."

Argent doesn't recall how many takes they did on "She's Not There," but guesses that it was probably about three or four. "All four tracks would have been recorded in a three-hour session," Argent says.

Ultimately, a sobered-up Johnson mixed the record. "I didn't realize until recently that Terry Johnson must have come back the next day, so he had a lot to do with how that record sounded. Hats off to



him because it was a terrific-sounding record."

It has annoyed Argent over the years that today the stereo remix gets played more than the original mono recording. Both versions are on The Zombies box set, Zombie Heave 1.

"As it was being mixed, we were able to add a little drum part, so it made it sound a lot better," Argent says. "At the time there were only four tracks. You could go the extra track because when you reduced the four down to one track, you could add another part, so we added a little drum overdub, which made all the difference, which was on the original mono hit. And to my ears, that mono hit sounds miles better than any subsequent stereo mix that has happened, yet the only thing you ever hear these days is the stereo remix. It's such a shame."

After the band recorded, Argent says they weren't allowed into the studio again.

"Ken Jones was a very autocratic, old-school producer," Argent says. "In the end, that's what became unacceptable to us. Ken did a wonderful job on 'She's Not There' and was a talented guy," Argent says, adding that the producer passed away a number of years ago.

One thing that definitely went right was that George Harrison was on the panel of judges on UK's most influential program, called *Jukebox Jury*.

"They played about one-and-a-half or two minutes of each song and the panel decided if it would be a hit or a miss," Argent says. "We managed somehow to get it on the show, and that night George Harrison was on the show and at that time, any one of the Beatles was gold. He didn't like any of the previous

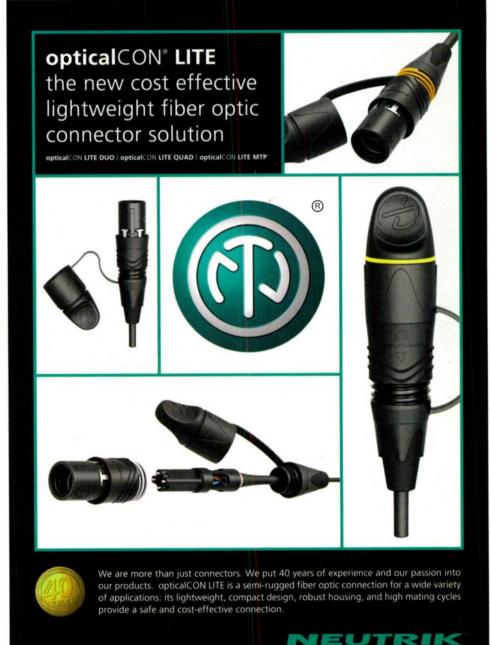
But at the time, I didn't think of it as jazzy. I thought I was writing a Beatles song. Once it goes through your own filter, all these other things come out. But right from the beginning of The Zombies, we always experimented with harmony, which was unusual for rock 'n' roll at that time, and I was always interested in improvising solos.

-Rod Argent

records, but he was hugely complimentary of 'She's Not There,' and I'm sure that was the biggest piece of timing and luck."

"She's Not There" hit Number 12 in the UK, but went all the way to Number 2 in the U.S. Hearing it for the first time on the radio, Argent says, was magical.

"I heard it the first time on Radio Luxembourg, which was the only commercial station you could get in England because it came from Luxembourg and it was broadcast on medium wave," he remembers. "The signal would come and go and there were all sorts of crackles on it and it would fade in and out, but somehow that added to the magic of it, so it sounded like it was coming from a slightly different universe. Hearing that for the first time was absolutely magical. I remember it very well. It felt fantastic."



SETTING STANDARDS SINCE 1975

MADDALA MUSIC STUDIOS

Multi-Instrumentalist Composer Builds Dead-Quiet Space By Matt Hurwitz



ward-winning composer Vivek Maddala takes a moment to have a chat in his new studio, Maddala Music, in West L.A. near Venice. A lull in the conversation, however, reveals a flaw in his design. His dog, Django, is lightly licking a paw, the only sound heard in an otherwise positively dead quiet space. "He's only ever ruined two takes." the composer laughs.

Having risen from winning the grand prize in the Turner Classic Movies Young Film Composers Competition in 2000, scoring silent films, to scoring dozens of independent feature films and shorts and countless album recordings, Maddala's needs have grown to require a state-of-the-art studio for a wide variety of projects, available at any time of day. And, in a tight-fit residential neighborhood, that means one that is perfectly soundproofed. "I often work in the middle of the night. So I don't want to disturb the neighbors at 2 a.m. when I'm playing drums," he says.

To accomplish that goal, Maddala not only drew on his own experience—he has a background in electro-acoustics and spent several years designing speakers and microphones for M-Audio-but also that of acoustics consultant Kevin Lee Hughes, who recently assisted with design work for Capitol Studios Studio A. Architectural design was handled by Los Angeles-based Jonathan Brier of Brier Architecture, who has built many such facilities, both





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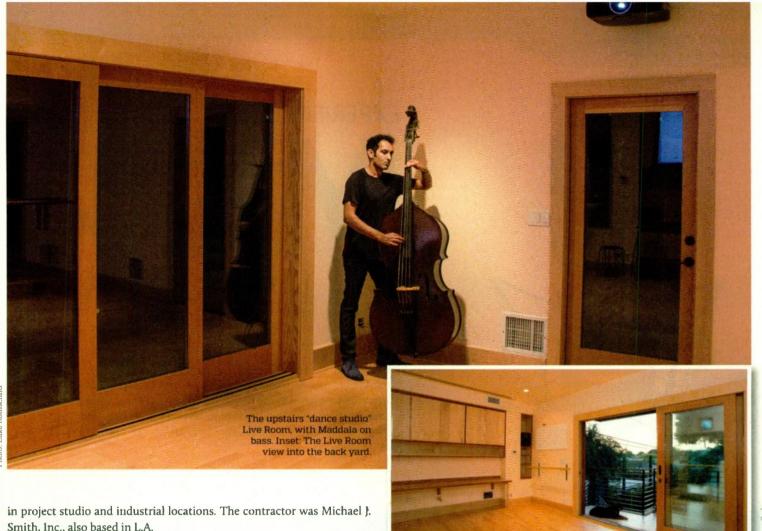


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Smith, Inc., also based in L.A.

When Maddala and his wife, a dancer, purchased the 1,750-square-foot home with 300-square-foot garage, located on a 5,700-square-foot lot, a few years ago, he notes, "The previous owner was a visual-effects artist who had turned the garage into his VFX studio. I naively said, 'I'll just make that into my music studio, maybe knock down one wall."

But in order to accomplish his requirements, not only for acoustics but also to allow comfortable space for visiting clients, the structure was replaced. In addition, the couple decided to add a dance rehearsal space, which doubles as Maddala's tracking room, by adding a second floor above the recording studio. "A dance studio would probably be one of 10 things you would not put on top of a recording space," Brier laughs. "That and a bowling alley. But we made it work beautifully."

The convoluted City of Los Angeles permitting process for construction in a residential area drew the construction period out to two-anda-half years. Among other things, the code requires a house to have a two-covered-space parking garage for automobiles. "So we designed the structure so that you could actually drive two cars in here, into the studio," Maddala explains. "Not that we'll ever do it. But it can be done. It met code, and they approved it." The operable 5-inch-thick insulated automotive carriage doors act as a secondary exterior sound barrier.

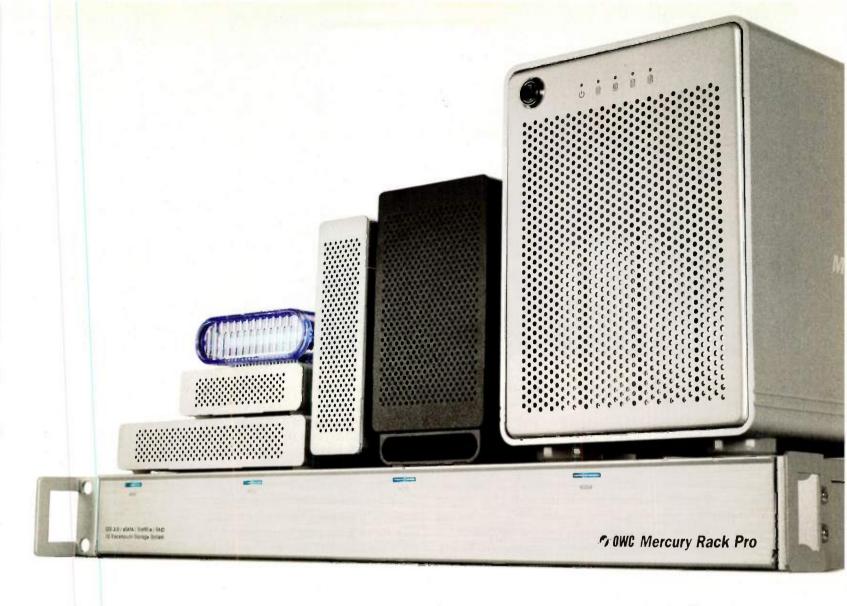
The quiet structure itself is achieved through a double-shell construction—a sturdy structural wall with an acoustically designed inner wall, with an air gap in between. The inner walls are made up of studs covered with 34-inch high-density fiberboard, adhered with Green Glue noiseproofing compound, a rubbery polymeric cement that remains pliable, while keeping the HDF from coming in direct contact with the studs. On top of the HDF is PABCO QuietRock sheeting, containing a thin layer of lead, and also adhered to the HDF via Green Glue. Says Hughes, "Having multiple layers of hard and elastic material helps to absorb acoustic energy and decouple broadband vibration. Controlling wall vibration is an important part of providing a nice sonic characteristic."

The stud placement incorporates a Hughes design approach by its uneven spacing around the interior structure. "If you space the studs the same all the way through, it sets up a specific resonant mode characteristic," he explains. "By alternating stud spacing, we balance resonant modes within the wall, making the walls a bit more neutral."

The floor is floated, comprising a 1-inch layer of plywood subfloor, covered with maple surface, atop a concrete slab. Between the subfloor and the slab is a set of KIP fiberglass isolators, made by Kinetics Noise Control.

The floor of the dance studio above is about three-feet thick (that is, to the bottom of the studio ceiling), most of which is air. "Air in a space is always an acoustician's friend," Hughes notes. The floor is a true sprung dance floor—a maple surface on a layer of birch, under which is a halfinch layer of weighted STC-rated neoprene, all atop a 2-inch floating foam subfloor-and then, of course, the air. "People can be jumping up and down in here, and you won't hear it downstairs," Maddala states.

The composer uses the dance studio for recording, easily fitting 12 to 14 string or woodwind players in the space. The room is connected to



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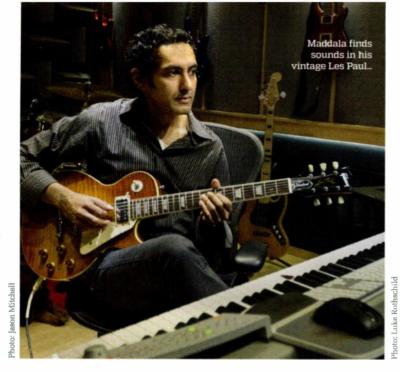
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the studio and machine room downstairs via tielines-12 mic lines and two separate headphone feeds, along with 32 channels of 24-bit digital bi-directional audio-through patch bays soldered by Maddala himself. "I usually conduct my own sessions, so I can conduct, as well as run my DAW at the same time up here. So I can be working with the musicians in this live room, and everything records down in the machine room."

The machine room houses three PCs and two Macs, a PC Audio Labs computer, plus others Maddala built himself. His writing rigs support Cubase and SONAR for recording, as well as other audio, while he uses Pro Tools HD mainly to run TDM plug-ins. "I have many terabytes of virtual instruments, so in order to relieve the load on my main writing rig, 1 have outboard computers, with just MIDI and audio, through either traditional MIDI channels and audio channels, or over LAN." Another computer operates a Control4 automation system, allowing Maddala to control nearly everything (lighting, video projection, HVAC) from his iPhone.

The studio has a dual power system, clean and dirty. "The clean power system is on a triple-shielded isolation transformer," Maddala says. "No matter what happens, we're always getting regulated 120 VAC 60 Hzvery, very low-distortion sine wave. All the audio gear and video gear runs off of the clean power, with dirty power for lighting, HVAC, etc."

Power travels through a unique paired wiring system that allows B-fields to cancel within the walls. Data lines are kept separated from 120V power, crossing only at 90 degrees when they must. "You can actually record guitars with single-coil pickups without hum in this room; stray magnetic fields are quite minimized in here." Also worthy of note: the entire structure is solar-powered. The roofs of both the studio and the main house are completely covered in photovoltaics, so Maddala is able to run the studio as a carbon-neutral operation.

The studio has several separate HVAC systems (each mechanically and physically isolated from the recording spaces), for the studio, the machine room, even for the studio's projector, which is housed in a soundproof enclosure. "The key with HVAC is keeping the air velocity down to extremely low levels, so that the air almost falls out of the air handler, rather than blowing out," says Hughes. Both supply and exhaust venting is not only muffled but contain four 90-degree bends/cants. "With enough bends, large duct to keep the velocity down, and distance between what's making the noise and the space, you're going to have good results," he adds.

The composing/control room measures approximately 13.5 feet wide by 23 feet long, including a three-foot-deep broadband trap at the back. Though Maddala notes that many acousticians don't like a rectangular box design, he prefers it, mainly due to the simplified acoustic calculations, making it easier to predict room response.

"With parallel walls," says Hughes, "resonant modes are predictable, easy to calculate, and consistent throughout the space. The lower octaves are often the most difficult to balance. If a room is narrow at the front and widening at the back, the room resonates differently, front to back." The design of a broadband rear wall absorber allows the space to function as an infinitely long room. With this approach, the listener is near-field to the lowest octaves. Our goal was to provide a consistent sonic experience throughout the space."

The rectangular design also makes it easier to eliminate the presence of a single "sweet spot." "Everyone can't sit in the engineering seat, within the triangle," Hughes says. "But as a producer or client, from a tonality standpoint, you want to be able to at least understand what's going on at the engineering desk. So it's important to have the sonic characteristic of the room balanced. As long as [reflections] are controlled, reduced in level and harmonically similar, our brain recognizes them as reflections; just turn them down a little, study 'Precedence Effect."

Maddala designed his own monitors, based on a D'Appolito vertical array, with two woofers and a 1-inch custom titanium tweeter with a waveguide. "The idea is that you get a much wider sweet spot than you would typically get with a simple 2-way design. You can be off axis and still get a proper stereo image. And because I mostly score films, and I'll be in the room with a director and a producer, people are spread around the room. Normally, in a typical loudspeaker environment, each person then has to take a turn sitting in the sweet spot. This way, you can be off axis and still be in the sweet spot, still get a proper stereo image."

With balanced resonance and a controlled, but not overdamped, space, the room provides an accurate and sonically pleasing space to work in. "There are a lot of schools of thought on how to approach studio design, and making 10 octaves of acoustic energy work in a space is a difficult challenge," Hughes says. "Keeping it musical is where art and science must come together."

Chris Lord-Alge



BAREFOOT

World Radio Histo



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FAITH NO MORE

Reconnecting with U.S. Fans After 18 Years By Matt Gallagher

an Francisco-based rebel rock/ funk/metal band Faith No More is once again making waves in the U.S. among its longtime and newly devoted fans. After spending 15 years recording albums, touring, enduring personnel changes, building a loyal worldwide fan base and earning acclaim from the likes of Guns N Roses and Metallica, the band suddenly called it guits in 1998 after a successful tour. Their recorded output and following remained and endured, and then in 2009, FNM-Mike Patton (vocals), Bill Gould (bass), Roddy Bottum (keyboards), Mike Bordin (drums) and Jon Hudson (guitar)—reunited and began touring for three years for enthusiastic audiences abroad.

On the road, band members were inspired to write new songs, and beginning in 2014, they convened in Gould's studio space in Oakland, Calif., to create Sol Invictus, released on May 19 on Reclamation Recordings. The album project convinced FNM to once again tour the U.S., presenting a distinctive show awash in a sea of white (including gear and crew members in white outfits) and decorative flowers. Mix caught the band in mid-April at the Paramount Theatre in Seattle.

Front-of-house engineer Michael Brennan and monitor engineer Nicco Antonietti have worked in Faith No More's touring crew since the band reunited in 2009. "I got the job through our production manager, Shaun Kendrick," Brennan says. "He had toured with the tour manager, Tim Moss. I had worked with Shaun on tours with Mogwai, My Bloody Valentine, Fuck Buttons, and many ATP and Primavera festivals. Here we are six years later and the band has a new record to play and promote."

At the outset of this U.S. tour, the band members were quoted in the press about how their reunion tours of Europe, Australia and South America of the past few years inspired them to write new songs, record a new album, and tour the U.S. once again. Brennan offers his take on their renewed interest: "They are really enjoying the consistency and excitement of the shows and the positive reaction from the audi-





ence. I also think the band's crew created a positive, professional environment for the band. There were many occasions when they were jamming at soundchecks. These jams develop into parts, and these parts turn into songs [that] end up on a record. They can't help themselves."

Brennan says that FNM does not rehearse a show prior to touring. "We have a setup day with the crew before every leg but no band. Nicco and 1 both use Avid boards [S3L at FOH and Profile at monitors] so we are able to pick up from where we left off. The band are super tight and well rehearsed, so we are all good. We just hit the ground running every time, and the crew always delivers. There has to be a certain kind of chaos in the show. It suits the show."

The band's spring dates in the U.S. were supported by Rat Sound in Western cities, and by Eighth Day Sound in Eastern venues. FNM is carrying the two Avid consoles, mic package (supplied by Brennan), d&b audiotechnik stage monitors, and line system, and relying on house-provided P.A. systems, which have included JBL, Meyer Sound and d&b rigs. "I just need to tune each room and its P.A. so it suits FNM," Brennan says. "When it comes to festivals, it's mostly [L-Acoustics] V-DOSC or d&b. We just plug in and play. When it comes to our own shows we spec exactly what we want from a local supplier and we provide all the control or we take a company."

Brennan notes that FNM does not always attend soundchecks, and the console provides a remedy for that. "The S₃L system integrates fully with Pro Tools," he says. "That means that every day I can record my show as a multitrack Pro Tools session. I use pre-recorded shows and tracks in Pro Tools to do a Virtual Soundcheck every day."

When the show begins, Brennan first checks the band's vocal mics. "I get them loud and crisp," he says. "It should only take a second or two to do this. Then I look at input gains: Is anything coming in too hot or too cold? Then I look at sonics, EQ on instruments and what needs to be done to help each part find its place in the mix. This is achieved not only by balancing levels; I use filters, EQ, compression and key inputs to help me control the mix. I like pushing everything to the edge [while] still being in absolute control."

FNM's dynamic show requires a very active mix: "One minute they are playing a smooth Boz Scaggs track or a Commodores song, and the next they're playing some insane tribal rock like 'We Care a Lot' or 'Caffeine' and then a punk rock track like 'Introduce Yourself" or 'Gentle Art," Brennan says. "I am a very hands-on mixer. Each song is pretty much a remix; there is no point in the set when I can just sit on the mix. My ears constantly and rapidly scan every instrumental or rhythmical element of the song, and I'm constantly monitoring and adjusting levels parameters in very small ways. On top of that there are quite a few effects cues on [Patton's] vocal and [Bordin's] kit."

Brennan says he appreciates the S₃L's ergonomic design and configurable control surface. "I don't have to move, yet I have access to every element of my mix. There are 16 channel strips with motorized faders, with six fader banks that give me access to up to 64 mix channels. I am constantly changing effect and pro-

cessor parameters while fader mixing the band on input faders and output VCAs. The S₃L allows me to do this with no workflow problems. The ribbon controller allows me to change FX parameters and fully interact with the show. It makes it easy for me to adjust plug-in settings and reassign encoders while managing high channel counts, aux sends and fader groups.

"For my inputs I use [three] Avid Stage 16 Remote I/O units," Brennan adds. "They have 16 inputs and eight outputs via one Ethernet cable. Each box gives me 16 mic preamps, eight analog line outputs, and four AES digital inputs, and is placed stage left, in a rack. The system is fully networked via Ethernet AVB, which means I just run two Cat-5e multi-cores from stage to FOH."

FNM's microphone selection changes with each tour. Currently, Patton is singing into a Telefunken M80 dynamic mic, introduced for this tour; for Bordin's drums, Sennheiser e 609s (rack and floor toms), Shure SM81s (cymbals, hi-hat and percussion), SM57 (snare top), e 604 (snare bottom), e 901 and e 602 (kick); on Hudson's guitar cabinets, Shure Beta 57s and Sennheiser e 606s; and on Gould's bass cabinet, a Telefunken M80 (newly introduced). Patton also uses a CB radio mic that is plugged into a Korg Kaoss pad for added distortion and delay effects, as well as a pair of full-size megaphones miked with a Shure Beta 98 taped inside and a radio transmitter strapped to the side of each unit. In Patton's vocal chain, Brennan uses Avid plug-ins for reverbs, distortion, delays, tape flanging and Leslie speaker simulation.

Monitor engineer Nicco Antonietti-who hails from Milan, Italy, and is currently based in London working with sound company Britannia Rowcame to Faith No More by way of his work on Patton's side projects in Italy, including Mondo Cane, Patton's tour and 2010 album release featuring a band, orchestra and choir, for which Antonietti served as monitor engineer.

Antonietti uses Waves plug-ins with his Avid Profile and a Midas XL42 2-channel mic preamp and 5-band EQ. "I've been using the Profile for probably 10 years, since it came out," he notes. "I never have any issues. It's a pretty simple setup because it's a pretty standard rock band: drums [have] probably 12 channels, three channels of bass, four channels of guitar, four channels of keyboards plus four backups, four vocals and an acoustic guitar. So we end up with 40 channels maximum, I think. Everyone has two [d&b M2] wedges, apart from Patton, who has four in the front and two in the back. And the drummer has two J-Subs and two M2s on top of the J-Subs. They're an easy band to mix onstage because they're not really demanding to work with as long as they have good power, good sound pressure."

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Photos doo Arai-D



On the Cover: Studio A at Studio 28, Bangkok, Thailand

Jay Kaufman & Associates designed Studio A in this groundup, 15,000-square-foot facility, which also includes a smaller B room, kitchen and lounges. With three adjacent iso booths and an observation deck, Studio A is large enough to accommodate projects ranging from rock bands to a 75-piece orchestra.

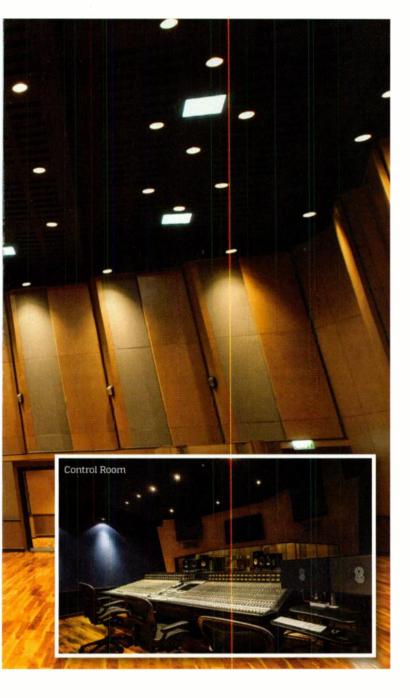
Studio 28 is owned by Fang Riewpakorn, who is from Bangkok but received her audio education in the U.S. "After I graduated from the recording program at Full Sail University, I moved to Los Angeles and worked as an intern for almost two years," Fang says. "Then I decided to go back to Thailand and open the first version of Studio 28. It was a small studio for basic recording projects. After four years of doing mainstream and indie projects, our team decided to make a big change."

Fang says that working in L.A. studios helped define what

she ultimately wanted in this latest incarnation of Studio 28. She chose Kaufman to design it, in part because she admired his work on The Bridge Recording (Glendale, Calif.).

"Fang wanted the room to be very flexible," Kaufman says. "She even had some interest in using the rooms for performance-type sessions with an audience in the room. So, we needed to have a pretty sophisticated variable acoustic system.

"The room's character was designed to be warm yet detailed, with significant diffusion, which allows the players to hear each other clearly," Kaufman continues. "To accommodate the need to control the room's reverb time, about 40 percent of the walls can be reflective or absorptive by manually moving panels. The ceiling has motorized panels, which also allows for approximately 40 percent of the surface to be hard or soft. A critical



component of this design was keeping the low-frequency reverb time in balance as the absorptive panels were engaged."

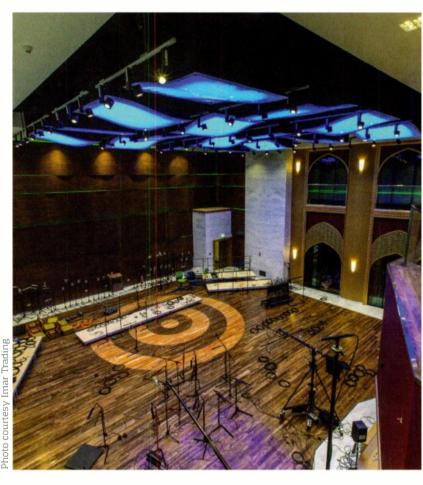
Studio A's 600-square-foot control room is equipped with an 80-channel SSL 9000J console that came from Electric Lady in New York, as well as K&A custom monitors, and a wide selection of outboard processing and microphones. Studio A has been open for about four months, and has already seen several sessions with the Bangkok Symphony Orchestra, Grammy-nominated bass player Nathan East and others.

Kaufman says he conducted a lot of his supervision on this project from a distance, with the help of Skype and a local project manager who consulted with him daily. He was able to test and tune the room in person at strategic intervals, but is still looking forward to hearing the finished studio, which Fang says she appreciates for its "simplicity and functionality. It sounds amazing and looks really professional."

Katara Studios Doha, Qatar

Katara Studios, another large international recording studio to open in the past year, was designed by the Walters Storyk Design Group in collaboration with Elie Wakim, head of the acoustical division of Doha-based Imar Trading & Contracting. The sprawling, 65,000-square-foot, 40-plus-room complex includes the beautiful 3,000-square-foot Studio 1 pictured here. This orchestra-ready room has a 30-foot ceiling and accommodates more than 80 musicians. Katara also features three control rooms, six iso booths and four sound locks. Control Room One is outfitted with a 96-fader Neve 88RS Console and 5.1 PMC BB5 surround sound monitoring. Studio 2 is a live band-tracking room with an adjacent 582-squarefoot lounge that was designed to do double-duty as a third live room for smaller ensembles. The facility also includes a mastering suite, Dolby Atmos-equipped film post-production/mixing suite, two composer rooms, and three audio prep rooms. Interiors were designed by WSDG company co-principal Beth Walters, and partner/art director Silvia Molho performed extensive research on Islamic and Muslim graphic arts and architecture in order to incorporate elements of intricately patterned calligraphy and mosaics throughout the complex.





Shochiku **MediaWorX Studios** Tokyo, Japan

Studio bau:ton and nonzero\architecture's approach to the design of this post-production studio took into account the range of work accomplished in the facility, from traditional Kabuki theater and historic-film restoration to contemporary film production. The designers took inspiration from the slatted wood walls and panels common to traditional Japanese architecture. Also repeated throughout the project is a rectangular shape with a two-to-one ratio, a design element borrowed from tatami mats; these panels were divided diagonally to create two triangles, rendered in wood and fabric-covered panels as well as translucent Plexiglas. The Audio 1 Suite pictured here includes an Avid D-Control console, Pro Tools HD, Adam Audio mains and surrounds with Genelec 7270A subwoofer, and a range of plug-in processing.



Photo: @Shochiku MediaWorX

Conclave Studios New York City

This music production studio features design and system integration by the Malvicino Design Group. All interiors and acoustic treatments were manufactured by TADI. Specializing in rock, prog and metal recording and mixing, Conclave includes a 22x14-foot live room with 12-foot ceilings, as well as an adjacent iso booth and 23x18-foot control room. Situated in a New York City landmark building in the Chelsea area, the studio boasts incredible views of the Hudson River. Equipment includes a 24-channel Neve Genesys console with 1073 preamps and 1084 EQs; Pro Tools HDX2 and Logic Pro systems; monitoring from Yamaha and Genelec; and outboard gear from Empirical Labs, Lexicon, Focusrite, Radial and Trident.



Photos: Mitch Cox



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vintage microphones from
Neumann, Telefunken, RCA,
and - another first in this city - a
coveted, vintage Neve 8078 console.

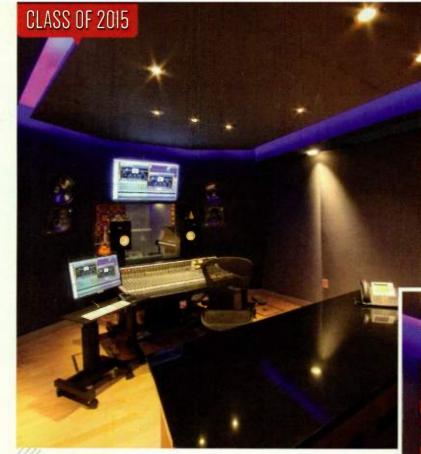
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Photos Francis Manzella

The Orchard **New York City**

Francis Manzella of FM Design Ltd. designed this music production and mixing studio to serve artists across multiple genres, from The Orchard's affiliated record labels (Frenchkiss, Daptone, Instant Records, among others). This facility is equipped with an SSL AWS console, Genelec 1038 monitoring, Pro Tools HD, and a variety of analog outboard processing.

Sony PlayStation Studios Playa Vista, Calif.

The game giant's newest audio facility, designed by Chris Pelonis of Pelonis Sound & Acoustics, includes nine studios and six audio production suites, all with variable acoustics. All rooms were designed and optimized for stereo to 7.1 playback. A sizable recording suite within the facility features an array of boutique analog gear, along with an Avid System 5 console. Each control room includes Pelonis Signature speaker systems.





Photos Chris Pelonis

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Photos: Don Couch

Windy Hill Studios Austin, Texas

Designed by Mark Genfan of Acoustic Spaces, this 2,000-square-foot facility in the Texas Hill Country offers a relaxing environment that feels removed but is minutes away from the city. Included are an 850-square-foot tracking room with 16-foot ceilings, as well as an adjacent control room and separate iso booths. Genfan designed all custom acoustical treatments, which are contained within fabric and woodwork, built on-site by the owners. Control room mixing

can be performed in 2.1 to 7.1 via Chris Pelonis PSS-110 and JBL speakers. Other featured equipment includes an API 1608 console, Pro Tools HDX and Sontec and API EQs.



Oak Hollow Recording Oregon City, Ore.

Haverstick Designs transformed a 47x23-foot detached garage with dirt floors into this four-room recording studio with live room, control room, vocal booth and client lounge. Extensive isolation was added to the structure, including doors and seals provided by IsoStore. Acoustical treatments were custom-designed, with the exception of the rear-wall diffusers from Overtone Acoustics. Wiring, conduit, patch bays and mic panels were designed

by West Coast Studio Services. The studio includes an SSL Matrix board, Pro Tools 12 HD, Dynaudio BM5A speakers and a wide range of mics and mic pre's.







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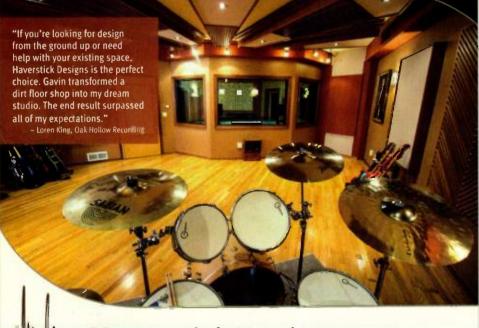
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Deep River Sound Studios Sanford, N.C.

Designed by the Wes Lachot Design Group to accommodate music recording and mixing, as well as music-for-film projects, Deep River Sound is the personal facility of owner/engineer John Davenport, whose credits include the Rolling Stones, Bruce Springsteen, John Lennon and others. The studio, which was built by Brett Acoustics and wired by Canova Audio, features ATC monitors and an API Legacy Plus console with automation, and was designed to have a control room sweet spot that covers the width of the board. Lachot states that critical mixing in the room is made possible by an even decay time and the highly diffuse rear portion of the room, as well as a unique diffsorptive ceiling cloud. The tracking room features variable acoustic panels that fold to reveal a 20-foot picture window overlooking Deep River.







Photos: Wes Lachot

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Photo: Martin Pilchner

Jukasa Post Production, Caledonia, Ontario



This high-end film mix studio was designed for Jukasa Post Production by Pilchner Schoustal International. The design incorporates a Dolby Atmos system using a Meyer Sound Acheron speaker system with 36 surround speakers, three main screen channels and seven subwoofers. Dolby and Meyer were both involved in the development of this theater. Acoustically, the design implements a sophisticated arrangement of room treatment constructs integrated into the room surfaces, along with other custom assemblies geared toward providing a spatially uniform and consistent system response. This facility also incorporates an Avid S6 control surface that interfaces with five Pro Tools systems, a Christie 4K projector and Stewart Directors Choice screen.

Rapid Eye Music Belmont, Mass.

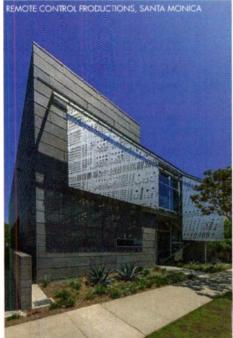


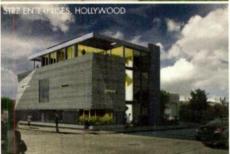
Built into a renovated two-story barn, Rapid Eye Music was designed by Lou Clark of Sonic-Space. In the control room-which is fitted with a Slate Raven MTi touch-screen console and Adam and JBL monitors—are concrete speaker stands within a 24-inch-deep broadband absorber; floor-to-ceiling side wall absorbers; three feet of ceiling bass trapping; and a rear wall bass trap with flush-mounted RPG Diffusors. At the speaker end of the room, the floor has a 24-inch-deep bass trap hidden behind carpet and a porous frame; the trap travels all the way to the opposite side of the room under the wood floors. The live room's 14-foot ceiling has angled panels and duct liner used as ceiling tiles to control floor-to-ceiling reflections. Wall-mounted polycylindrical diffusers and theater curtains help to control and vary the acoustics.





Photos: Tim Gaudreau









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The Parlor Recording Studio New Orleans. La.

Designed and built from the ground up by Dave Mattingly of Sound Construction Inc., The Parlor is situated underneath a historic warehouse in New Orleans' Irish Channel neighborhood. Included are an 800-square-foot control room, 1,100-square-foot tracking room, three iso booths, plus an echo chamber. Reflective surfaces in the studio are a combination of new materials (such as custom-milled and stained waveboard) and reclaimed materials (antique heart pine floors, mahogany trim, vintage bricks). Key equipment includes a Neve 8078 board restored by Vintage King Audio, Studer and Ampex tape machines, CLASP system, Pro Tools HDX, and Apogee converters, as well as plenty of vintage mics and band equipment.



Photo: Jolie Lopez



Photo Russ Berger Design Group



Richards Outpost Dallas, Texas

The Russ Berger Design Group helped to create this audio facility for the new 18-story headquarters of advertising/marketing agency The Richards Group. The complex, which includes two 5.1 control rooms and a shared recording booth, serves the agency's in-house production and post work. Richards Outpost is equipped with Genelec DSP monitoring, an Avid ICON-D Command ES console controlling Pro Tools, and more.

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Joachim Horsley's Lookout Los Angeles

Arranger/composer Joachim Horsley contracted with Steven Durr Designs to build this studio for acoustic and small-ensemble recording. Durr's design focuses on providing a big, natural sound-especially for the studio's 1875 Steinway grand—in limited space, on the second floor of Horsley's home. The existing offset of the roof line was used to create a lofted recording space that accommodates live band sessions, which are captured via Pro Tools HD Native with Apogee Symphony I/O, Avalon and API preamps and Genelec surround monitoring.







Photos: Joachim Horsley









Photo Hanson Hsu

SAE Institute, Los Angeles



Delta H Design's proprietary Surface Mounted Device (SMD) and Quantum Acoustic nanotechnology systems were applied to 18 rooms of the School of Audio Engineering's newest campus in L.A.'s historic Kodak building. The design firm spec'd its ZR screens on track systems to address the numerous windows in the rooms, stating that with the screens closed, ZR Micro technology embedded in the screens makes the window glazing undetectable. These new educational studios are fitted with a variety of gear, including consoles from SSL, Neve, Toft and Avid; and monitoring systems from Genelec, Dynaudio, Adam and Mackie.

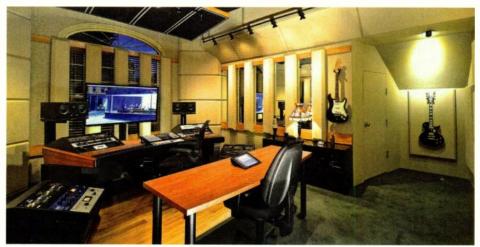


Photo: Lou Johnson

Cool Springs Mix, Nashville



Carl Tatz Design handled the design of this personal mixing studio for engineer/producer Bob Bullock, whose credits include Reba McEntire, George Strait, Kenny Chesney and others. The facility incorporates Tatz's MixRoom concept, featuring the PhantomFocus System monitoring technology. Acoustical treatments include a custom application of the Carl Tatz Signature Series acoustic modules by Auralex. Featured equipment comprises Dynaudio M1 monitors (in a PhantomFocus System), Pro Tools 11 and Nuendo 7, Avid MC Control, and Neve and API mic pre's.

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Photo: Brian Bradley

Owl City, Owatonna, Minn.



This private facility was designed for Adam Young, a singer, composer, musician and creator/member of top-selling electronica project Owl City. Situated in Young's log cabin home, the studio features a 675-square-foot control room outfitted with an SSL AWS console, Adam Audio S-4XV mains, and Young's extensive collection of outboard gear. A rolling producer's desk and four mobile equipment racks allow for flexible room reconfiguration. There's also a 225-square-foot live room containing Young's collection of instruments, and an adjacent 35-square-foot vocal booth. This studio's natural wood construction fits beautifully with the cabin's interior and exterior setting.



Photo: Aric Wright

Mesa Recording Studios, Austin, Texas



Designed and built from the ground up by owner/producer Rob Hinton and Sean Eubanks of Woodhill Studios, Mesa Recording Studios is celebrating its grand opening after five years of planning and construction. Control Room A, pictured here, includes an SSL 4064 E/G+ console that was refurbished by the Desk Doctor and Pro Audio Design. The facility also contains a second control room, two additional tracking rooms, a full kitchen, saltwater pool and more, just 20 minutes southeast of downtown Austin.



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By STROTHER BULLINS

When it comes to needs, we have a lot to be thankful for: the affordable technology available to us is one. Yet technology has yet to solve most of life and work's acoustics problems, from the quality of the sound in which we listen, mix and record to what others may hear of our music, including right next door to your home.

For commercial facilities, there's a minimum amount of build-level acoustics investment that must be made to both abate sound sources from each other and the outside, and to create acoustically complimentary tracking spaces. This includes investments ranging from room-within-room installations to acoustician-consulted and/or built solutions.

In many residential audio production spaces, acoustics have been successfully balanced and aesthetically enhanced with absorptive and diffusive products, which are increasingly popular problem solvers, more readily available in a variety of forms and fashions, often with close guidance and even design consultancy from the manufacturer.

The goal in employing three treatment tools—isolation, diffusion and absorption—is, of course, to create an acoustically pleasing environment in which to work, one that should provide a relatively flat frequency response with little room-influenced coloration.

Products often used for isolation include pads, baffles, wedges, and various insulations made of a wide variety of materials. Other isolation products-used to isolate components from each other within the studio-include monitor isolation wedges, instrument/ amplifier pads, and many types of "go-betweens," otherwise known as gobos.

Diffusion products reflect sound at various angles, which help to break up both standing waves and flutter echo without removing acoustic energy from a given space. Absorption products also combat these negative acoustic problems via reflecting only a portion of the acoustic energy striking it (a value expressed by an absorption coefficient ratio). Both high- and low-frequency absorption products-consisting of many types of wall-mounted foams and a seemingly endless variety of bass traps-e.g., Helmholtz resonators-can offer the right balance. Together, effective diffusion and absorption can make even the most acoustically offensive room usable, but this often involves experimentation and a detailed analysis of a room's frequency response.

In my experience, the customer support at an acoustic treatment products manufacturer is markedly different from, say, a microphone, speaker or even a DAW firm. Done correctly, acoustic materials manufacturers sell solutions comprised of a variety of physical products that must be arranged, positioned and applied correctly to work correctly.

Below is a comprehensive collection of acoustic materials companies, their areas of product expertise, and explanations of their most notable creations.

Established by acoustic engineer/physicist Arthur Noxon in 1984, Acoustic Sciences Corporation is an acoustic research, design, and product development company. Obviously all of ASC's research has paid off; they are very well known for their patented TubeTrap, a pressure-zone, corner-loaded bass trap voiced with a treble range diffuser panel.

Acoustics First offers a large array of acoustic materials including sound absorbers, barriers, diffusers, and bass traps made of materials including polyurethane and Class 1 Melamine foams, fiberglass, wood, plastic, and metal. Of particular interest is Acoustic First's Transfusor, a transparent diffuser panel created to fit standard 2x2-foot fluorescent light fixtures.

Along with providing a wealth of acoustic treatment knowledge on its Website, Auralex Acoustics offers a comprehensive collection of



Acoustic Sciences Corporation TubeTrap



Acoustics First Transfusor



Auralex's new Deep6 Low-Frequency Absorber



ClearSonic S4-2L SORBER panels



ESR Roundffusorl



Golden Acoustics' Sonic Distribution product line



Markertek Markerfoam Sound Absorption Acoustic Foam Panels



MBI Products Cloud-Lite Acoustical Baffles

acoustical product solutions, including acoustical foam, diffusers, bass traps, construction components, and various other notable products. The company's Website offers information about its remote consultancy services that are actually quite simple to employ.

ClearSonic offers the SORBER panels such as the S2 baffle, a 1.6-inch thick fabric covered fiberglass wall treatment device. Built for easy portability, SORBER panels are light and easily mountable on a variety of surfaces. When custom configured with ClearSonic panels, SORBERS can be used to create better-balanced isolation spaces, booths, and even rooms.

Self-touted as the maker of "the world's most efficient acoustical diffuser," ESR offers the Roundffusori, is a combination diffuser/low-frequency absorber made of hard polystyrene. According to ESR, using the Roundfussori in a standard 9-15 piece group drastically reduces a room's overall reverberation time, as much as a much larger and more expensive absorptive surface would do.

Golden Acoustics' Golden Section Broadband diffusers are visually intriguing acoustic panels available in a variety of dimensions for both wall and ceiling applications. Golden Acoustics even make a full Golden Section tuning column in custom lengths up to 24 feet. Flat-mount Golden Section options include the full broadband ceiling panel, center ceiling/triple corner panel, end ceiling/double corner panel, full wall broadband panel, and a wall panel quarter section inlay.

Markertek may be best known as one of America's largest pro audio retailers, but they also make a full line of soundproofing and acoustic treatment products under the Markerfoam brand. Markerfoam products include ceiling and wall tiles, acoustic pads and baffles, acoustic sealant products, portable isolation booths, and acoustic blankets.

MBI Products Company's Cloud-Lite Baffle is the industry's original fully encapsulated absorbent baffle and is available in finishes of PVC, nylon, polyester, vinyl, and weather resistant fabrics. Other MBI offerings include the Lapendary Panel and the Colorsonix absorbent and decorative wall panel, which is available in a wide range of dimensions, thicknesses and colors.

MSR StudioPanel offers pre-engineered acoustic treatment kits that vary upon a given room's size. StudioPanel Acoustic Treatment Systems include a balanced collection of diffusers, absorbers, bass traps, and various other panels with specific mounting directions, effectively making complex placement issues simpler for the end user. Notable StudioPanel components include the Bazorber slotted low-frequency absorber, CloudPanel fabric-covered ceiling panel, and the SpringTrap, a ported corner bass trap for ultra-low frequencies.

NetWell Noise Control makes an extensive range of noise control and acoustic design products including polyurethane acoustic foam panels, bass traps, ceiling tiles, wall coverings and fabrics, even isolation tools



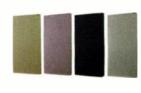
MSR Dimension4 SpringTrap bass trap



NetWell Pyramid Foam Panel



Primacoustic Broadway Panel with Bevelled Edge Finish



RealTraps Guilford MiniTraps



RPG's Dado 14/2 Natural Wood Panel System



Silent Source HushFoam Pyramid







www.ruonorecording/tudio.com







Taytrix FP30 StackIt Gobo panel with dual fabric sides

such as duct-work wrapping materials.

Primacoustic's acoustic solutions include bass traps and diffusers, wall and ceiling absorber systems, fiberglass absorber components, and much more. The company's comprehensive website offers acoustic treatment insight and notably valuable tips. My most comprehensive studio acoustic treatment installation to date involved a complete Primacoustic Broadway panel-based/bass absorber installation designed in conjunction with a Primacoustic consultant who recommended the best products for the job. It was a great experience with great results.

RealTraps have quickly become a leading provider of broadband absorption solutions with their complete line of their affordable and portable bass trap products. MiniTraps, MondoTraps, MicroTraps, GoboTraps, and the aesthetically unobtrusive SoffitTraps all offer various and impressive absorptive benefits. As an added perk, RealTraps offers detailed acoustic theory and product application information on its interesting website.

RPG Diffusor Systems is a maker of attractive and functional diffusion systems for a wide array of environments. RPG specializes in intricate custom diffusers made of a variety of materials and for mounting in a variety of areas.

Massachusetts-based dealer Silent Source sells a wide variety of foams, barriers, baffles, bass traps, diffusers, and much more, but also markets two of its own signature products. HushFoam panels are very absorbent open-cell polyurethane foam wedges, and WhisperWedge is a 2x4-foot flat foam absorber available in thicknesses from 2 to 4 inches.

Sound Control Room is the source of the Saturn polycyndrical diffuser, an acoustic treatment tool resembling a giant aspirin for use on walls and ceilings. Other custom SCR products include their own 3-Panel absorbent booth and Instant Studio, a full-frequency mobile control panel.

Taytrix offers clients a simple and innovative way to acoustically treat an environment—the Stacklt GoBo System, which is ideal for mobile recording rigs and temporary production spaces. Available in three styles and two colors, Stacklt GoBos feature multiple layers of insulation covered with fabric on both sides and measure 46x15 inches, or 30x8-inches wide. Both Plexiglas and natural maple panels are available for the Stacklt product line. Taytrix also builds studio furniture and provides design/build acoustic services, too. ■

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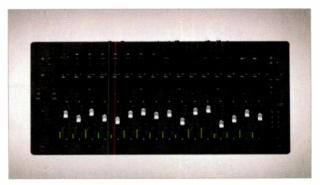
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MIX REGIONAL: CHICAGO

PRODUCER/ENGINEER BRIAN **DECK JOINS THE IV LAB**



Counting Crows, Gomez) is now working out of IV Lab and is currently in the midst of his first project there—a full-length album with the band Daniel and the Lion. The band was working in Studio A on the forthcoming record for a few weeks in May, with Deck and the studio's staff engineers, including Shane Hendrickson.

IV Lab is also expanding its business, offering music-licensing opportunities. Merging with IV Lab's sister company Various Things Live, the studio has produced, engineered, performed and written for a long list of influential projects over the past decade, including those from Manny Sanchez, Shane Hendrickson, Chris Harden, Rollin Weary, Jay Marino, Mike Sportiello, Paul Aluculesei, Darren Garvey, and now the studio's most recent addition, Brian Deck. Led by IV Lab's Music Director Darren Garvey and Deck and Sanchez, the studio is working with the artists who record there and beyond to build a catalog available for licensing.

The studio also recently started a YouTube series called Live From The Vault, which showcases artists who are involved with IV Lab playing stripped-down, live versions of their songs.

The following projects have also taken place at the studio: David Hayes worked with engineers Harden and Weary on Epics; AM Taxi worked with producer Marino and engineers Hendrickson, Weary, Sanchez, and Sportiello on Bastard of the Deep Blue Sea; Honey and the 45s worked with engineer Hendrickson on MAD; District 97 worked with engineer Harden on In Vaults; Graham Czach worked with engineer Sanchez on Star By Star; and Fort Frances worked with engineer Harden on No One Needs to Know Our Name.

Suono Recording Studio Finishes New Studio Build Out



Suono Recording Studio recently made an addition to its facility: a custom-designed, live end dead end, 300-square-foot mix room.

Completed in January, the new mix room features an SSL 4048E/G console with an Atomic power supply. According to studio producer/ engineer Patrick Pulver, the Atomic power supply "adds a bit of clarity and a rounder low end to the console." The new mix room also features a ton of vintage outboard gear, including Pultec and API EQs; LA-2A, 1176, Distressors, CBS Labs Audimax, API, and dbx compressors; Neve, API, Avalon, Burl and Warm Audio mic pre's; and Lexicon 224, 480, 300, PCM91, PCM41, PCM 42, and Eventide H3000SE effects units.

In other studio news, Grammy Award-winning producer Michael Freeman has been recently working on a number of projects.

Sonic Palace to Release Its First Mixtape



Former major label artist and producer/engineer/studio owner Matt Mercado is embarking on the studio's premier mixtape, Sonic Six Vol. 1. Produced and engineered by Mercado, the compilations in-

clude up-and-coming Chicago rappers Sapa Inca, Smokeadon, Byrd Davis and Mano. The release date is June 29.

In other Sonic Palace news, the studio reports the following projects have taken place: Chicago alt-rockers Black Actress just finished recording a new single for a vinyl release—"Walk of Shame," recorded with Mercado-from Pistola Entertainment and is scheduled for a July 3 release; rap artists Calvin White and engineer Kyle Reese recently finished recording, mixing and mastering White's new mixtape, which is scheduled for a July release; Mercado produced and engineered AlM's vocal tracks for "On the Low," a new single featuring Chicago rapper King Louie; and indie-pop-rockers Discoveries of the American Scientific will start tracking their new EP, with Mercado producing and engineering. Additionally, Sonic Palace is now a touchscreen-based recording facility having recently reconfigured the studio around Devil Technologies' DTouch controller for Pro Tools.

Bricktop Recording Builds Second Studio





Recording is Bricktop currently in the midst of building a second studio-based on a John L. Sayers design-for mixing and overdubs. The new studio is slated to open in July 2015. "Like our current studio, Pro Tools HD2 will be at its core with racked Neve and Neotek input channels, Hairball Audio 1176 Rev Ds and Distressors, as well as a Black Lion Audio modded Focusrite ISA410-first mod ever on this model-to act as our

A/D into our Avid Omni interface," says Pete Grossmann, engineer/studio owner.

The new studio is in the same warehouse, and is about 500 square feet with 15-foot ceilings. The iso room will be just large enough to fit a small drum kit, but will have plenty of space for vocalists and guitar amps. Grossmann says drums and live sessions will still be primarily done in the existing studio.

Bricktop Recording has also recently added an amp repair shop, which is run by friend of the studio Dean Costello. The studio is building out a dedicated space for the shop as well, right next to Bricktop's current control room, across the hall from the new studio.

In other Bricktop Recording news, the following projects have taken place at the studio: Hardcore metal band Harm's Way worked with engineer/producer Andy Nelson on Rust (with Kurt Ballou mixing); black death metal band Immortal Bird worked with engineer Grossmann (who also co-produced) on Empress/Abscess (with Colin Marston mixing and mastering); Cokegoat worked on new material with Nelson engineering, co-producing and mixing; Trials worked on This Ruined World with Grossmann engineering, playing guitar and bass, and reamping; SOVLS worked on Thick Skin with Nelson engineering, co-producing, and mixing; and Mexican Werewolf worked on Luck with Grossmann engineering, mixing and mastering.

JOYRIDE STUDIOS TO RELEASE MUDDY





After a year of work at JoyRide Studios, Muddy 100, the tribute album to Muddy Waters'

rooth anniversary, is set to be released in June 2015 on Raisin Music. Since last reported in Mix's Chicago 2014 regional update, the project has grown to include an impressive roster of guest artists, including Derek Trucks, Gary Clark Jr., Keb' Mo', James Cotton, Bob Margolin, Shemekia Copeland, and the late, great Johnny Winter.

"Johnny visited the studio to lay guitar tracks while in town to play the Chicago Blues Fest," says JovRide Studio owner Blaise Barton. "After dialing in his Fender amp tone and miking it up with a Royer 122 ribbon mic and a Shure 57, we piped the band tracks over the studio monitors for Johnny to OD his guitar, preferring to work without headphones. Engineer Brian Leach hit Record and from the very first note, that unmistakable Johnny Winter tone and style blew everyone away in the control room. We were all in blues heaven." Unfortunately, Winter passed away on July 16, 2014, just four weeks later. Of the experience with Winter, Barton says, "It was one of the greatest honors of my career."

MIX REGIONAL: **CHICAGO**

Bobby Balderrama at Paragon Studios



Legendary guitarist/songwriter Bobby Balderrama was in Studio A mixing his next single, "JazDude" from his smooth jazz group, Robert Lee Revue, with Joseph Connors (chief engineer, Paragon Studios) mixing, Elizabeth Lauer producing and mixing, William Kelly Milionis producing and mixing, and Ned Engelhart (Paragon Studio owner) mixing.

"JazDude" is scheduled for a summer 2015 release. Balderrama is a founding member of Question Mark & the Mysterians, whose song "96 Tears" topped the Billboard Hot 100 Chart for week in 1966, and continues to be a classic rock hit.

The studio also recently finished reconditioning its Trident TSM #9 console. Chief Engineer Connors and in-house tech Darrel Yount of Music Dealer Services/Mods by Darrel oversaw the reconditioning project. "The process has been lengthy, arduous, painstakingly tedious, and time-consuming, with many prolonged delays spent finding the correct replacement parts," Connors says. "But we are excited to have our legendary Trident TSM #9 fully reconditioned and ready to go!"



Plain White T's Record 'American Nights' at Wonder Studio

Producer Dan Monahan recently wrapped up work in March on the latest Plain White T's album, American Nights.

Red Jacket-a production collective that includes Monah-

an engineered and produced seven of the new songs on American Nights. "The process was fun, with late nights turning into endless mornings," Monahan says. "I believe we got one song a day recorded and tracked. We had a very good system going, where I would engineer and track the band, and then pass it off to my other Red Jacket teammate, Sean Small, for mixing." Monahan says he used Pro Tools 11, and Small used Cubase on the project.

"We really tried to use organic sounds as much as we could," Monahan says. "Any chance we had to use real horns and real handclaps, we would for sure. There's something about making sound for real that captures the moment and sets the vibe for the song."

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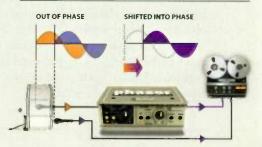
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SESSIONS: CHICAGO



Bruce Hornsby and Mavis Staples in CRC's Studio 5

CHICAGO RECORDING COMPANY (CRC)

Stevie Wonder was in the studio recording for Mark Ronson's album Uptown Special. Wonder recorded his harmonica in Studio 4 on an M 49, and it was featured on the tracks "Uptown's First Finale" and "Crack in the Pearl, Pt. II." Engineers Austin Thompson and Mat Lejeune worked the session... CRC's general manager Chris Shepard and his American Mobile crew recorded

live audio for webcast at Coachella. American Mobile will be traveling to 13 U.S. festivals this year, including Bonnaroo, Lollapalooza, Pitchfork and Austin City Limits...Dee Snider spent a week writing and recording with producer/ songwriter Damon Ranger in Studio 4 with engineer Lejeune... After last year's collaboration with EA Sports on NHL 15, engineer Stan Oda (assisted by Tom Zalduendo) recorded voice-over for their next round of production. The goal was to capture "game like" intensity by using the same mics that are used on air. CRC had to be consistent in the setup from year to year because a player's name recorded in 2013 would have to be stitched on to a new play call or reaction that was recorded in 2014 or 2015. Clean audio from the engineer allowed for clean cuts/edits. This led to seamless play calling with different names and contexts all mixed together in the game audio matrix. The mic chain for this project was Sennheiser HMD 25 mic/headset / John Hardy M-1 mic pre / Waves Renaissance 4 EQ / Renaissance Compressor...Guitarist Joe Bonamassa and producer/drummer

Tal Bergman recorded for their new project, Rock Candy Funk Party, in Studio 4 with engineer Jon Zacks (assisted by Shelley Bishop)...Bruce Hornsby's work on his new album includes a collaboration with Mavis Staples. It was recorded in Studio 5 with engineer Lejeune (assisted by Jonathan Lackey)...Mavis Staples also recorded her latest EP Your Good Fortune in Studio 5 on the SSL 6000, and it was engineered by Steve Weeder (assisted by Lackey). The EP was produced by Son Little. Staples' mic of choice is the Neumann U 47.



Most members of Funkadesi with engineer Rob Ruccia and producer Paul Von Mertens listening back to a take through the studio's ADAM S3A system

UPTOWN RECORDING

Funkadesi was in Studio East recording their latest album, with producer Paul Von Mertens (Brian Wilson Band) and Chief Engineer Rob Ruccia. They ran Pro Tools HDX on a new Mac Pro 3.5GHz 6 Core, and Steven Slate Raven MTX MKII was used for control surface and monitoring (both the Raven and the Mac are part of Uptown's recent studio upgrade). The session featured

10 musicians playing live. For optimal sound and ability to overdub or punch parts, isolated drums, bass and guitar were needed...Peter Lerner was in Studio West working on Continuation with producer Robert Irving III (Miles Davis/ Roy Orbison/Bette Midler) and engineer Ruccia. The jazz-guitar-fronted group performed live to Pro Tools HD, multitracked with isolation on the drums and lead guitar, which was needed for separation and overdub potential. A

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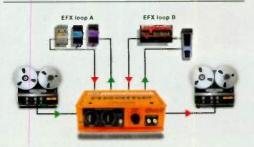


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Royer R-122 (10 inches off the right 12-inch speaker) was used on the Fender Twin through a Universal Audio 6176. Piano was miked using Shure KSM141s. Upright bass was captured using three mics: Earthworks QTC30 padded in foam was placed under the bridge, an AKG D 112 two feet off the f-hole for the low end, and an Audio-Technica shotgun pointed at the neck. The session featured 84-year-old Chicago legend Willie Pickens on the studio's Yamaha GB1 grand piano, along with members of the Robert Irving III band...Clarkwise (gospel group featuring Twinkie Clark) was in studios East and West with Irving producing and Ruccia engineering. The vocalists were working with a studio in North Carolina while the music and production was going on in Chicago. The OMF format allowed the studio to work between DAWs when the vocals came in. Pro Tools was able to open the OMF and allow placement of the tracks into the sessions. Overdubs included large string and horn sessions where Decca Tree setups were used, as well as spot mics for added focus. This session featured Miles Davis' nephew, drummer Vince Wilburn Jr.; bassist Darryl Jones; and pianist/keys player Irving...The Chris Green Quartet was in studios East and West with producer loe Tortorici (Ella Fitzgerald/Whitney Houston) and engineer Ruccia. A modified AKG C12 VR and Royer 122 were used for the saxophone in a large room with 14-foot ceilings. The drums were tracked in the other live room with 12-foot ceilings. Extra room mics were placed for ambience...Thomas Pace was in studios East and West, with Ruccia producing and engineering (Pace also produced). Recording was set up as if it were a live show. Drums, bass, guitar and piano were in the same room, except for scratch vocals were performed through an SM7 in the control room for direction of the band during recording. Tracking live with bleed added to the rough and raw sound the artist was looking for. Earthworks QTC30s were used to capture the room reverb naturally.



Jammie Bosstel, vocalist for

STONECULTER

Americana punk rockers Green Denim are currently finishing their debut album, Before the Devil Knows Your Name, with engineer/producer/studio owner Chris Steinmetz. Chip Z'Nuff produced the project, and it features Jesse Camp of MTV, Kate Catalina (Boneyard Gypsy), Chris

"Hambone" Cameron, and many more special guests...Rockers Blindspt are currently prepping the release of "On You," which was recorded and produced by Steinmetz...Tony Magee, founder of Lagunitas Brewing Company, is working on songs for his band Alice Drinks the Kool-Aid. Magee recruited some of Chicago's top musicians for this project, including Jim Widlowski on drums and Alan Berliant on bass. A Neumann 149 through a vintage Neve 1073 was used for Magee's vocals...2013 IndianRaga Fellow Harsha Nagarajan was at the studior producing an interpretation of Bruhi Mukundethi, popularized by M.S. Subbulakshmi, set to a ragamalika by Nagarajan...Steinmetz is also currently wrapping up production for the new EP from Superbig. He used the vintage Neve 1073s for vocals as well as a UAD 610 preamp followed by an Empirical Labs Distressor for guitars. Steinmetz also used a wide array of the UAD plug-ins for mixing...Paper Angels have been working on their new album, with Steinmetz producing. Steinmetz notes the use of Sound Toys plug-ins, particularly Decapitator and Echo Boy, for some intense vocal sounds...Platinum rapper Twista recorded a verse on one of Tech None's new songs. Steinmetz seasoned Twista's vocals with a UAD Pultec Pro...Jazz artists Steve Cole and Gerey Johnson came in for overdubs on The Sax Pack's third album. Johnson was also in tracking with saxophonist Marqueal Jordan and drummer Khari Parker.

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Acoustic tracking Jonathan McReynolds at Rax Trax.

RAX TRAX

Jonathan McReynolds recently wrapped up tracking for his upcoming album with engineer Andy Shoemaker in Studio A. Most of the tracking was done live over the course of a few days. Several acoustic songs were recorded live in front of an audience that was invited into the studio. Nine musicians

performed an acoustic set for a small audience and a full camera crew. The album is set for a September release...Shoemaker has also been producing and engineering an EP with Marirose Weldon. He enlisted the skills of Larry Beers on drums, Noam Wallenberg on guitars, and Ben Joseph on bass and keys to build songs around Weldon's lyrics and melodies...I Fight Dragons just finished tracking and mixing the theme song for *The Goldbergs* on ABC with producer/engineer Wallenberg...Wallenberg has also recently finished records for Jennifer Hall, The O'My's and Royale. He is currently working on new records with Packy Lundholm and Andrew Lothian...Producer/engineer Rick Barnes recorded the band Candy Golde, consisting of John Stirratt of Wilco, Bun E. Carlos of Cheap Trick, Nicholas Tremulis, and Rick Rizzo. Tracking was done in Studio A, assisted by Shoemaker, and Rizzo mixed in Studio B...Rizzo also wrapped up tracking and mixing Woo Park's debut album *Smokes*, and he continues to track blues bassist Biscuit Miller and his band...The studio recently hosted legendary engineer Alan Parsons for his most recent Master Class Training Session.

SOUNDSCAPE STUDIOS

FKA Twigs (pictured) worked on a new song in Studio A with Michael Kolar and Jeff Arenson engineering (FKA Twigs self-produced)...Chance the Rapper worked in Studio



A on "Sunday Candy," with Peter CottonTale and The Social Experiment producing and Kolar and Jabari Rayford engineering...Members of Snarky Puppy edited and mixed sessions in Studio A, with Kolar and Arenson engineering and the band self-producing...Carl Tatz of Carl

Tatz Design upgraded the subwoofer system to six 12-inch woofers powered by 3,000 watts. The studio also upgraded to two 1,000-watt Mono Blocks for the Dynaudio M1, for 5,000 watts total system power for the Phantom Focus System, and also purchased a Bettermaker EQ502P and a pair of Maag EQ4 matched by Cliff Maag. Studio A upgraded to a custom hybrid mixing and mastering console...Soundscape is also in the process of opening a third room for recording vocalists.



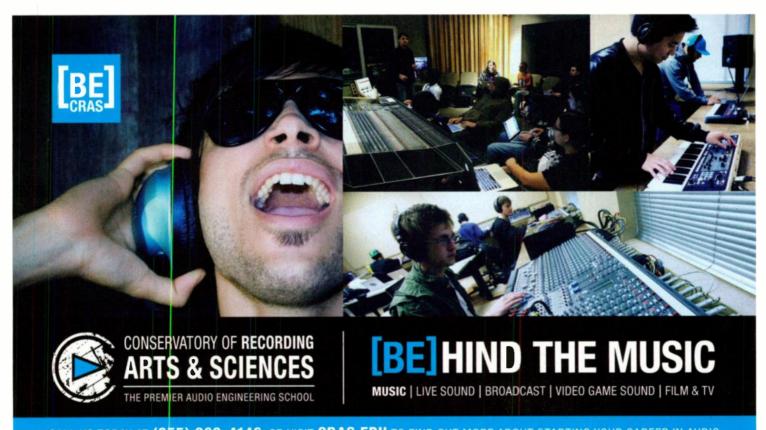
Naked Raygun at Transient Sound.

TRANSIENT SOUND

Naked Raygun worked on new material for an upcoming release, with Steven Gillis engineering, recording and mixing, and Brandon Miller assisting...AyOH worked on their EP *Dangerous Questions*, which was produced, co-written, engineered and mixed by Gillis for Transient Productions...Keri

Johnsrud worked on This Side Of Morning, which was engineered, recorded and mixed by Vijay Tellis-Nayak...Kevin Fort worked on Red Gold, which was recorded, mixed and mastered by Tellis-Nayak...The Nile Project worked on new material, with Miller engineering...The studio also recently upgraded Control Room A to Pro Tools 10, and Control Room B got a computer upgrade and Pro Tools 11.

Continued on p. 61



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PERISCOPE POST & AUDIO, CHICAGO

Building an Empire for 'Empire' and Beyond

BY MARKKUS ROVITO



n August 26, 2013, producer and post supervisor Michael Nehs, along with business partner Jonathon Bross, opened the doors to Periscope Post & Audio, a then 2,000-square-foot post house in the sprawling 50-acre campus of Cinespace Chicago, located in a converted steel plant five miles outside of the downtown. That same day, Nehs started work on two TV shows.

"I was still waiting for gear to come in," Nehs says, "so I went to GC Pro and built an ADR rig right off the shelf just for the first two days of ADR."

That first setup included a Mac Pro, Avid Pro Tools 11, Apogee Duet, JBL monitors, Sennheiser MKH-60 shotgun mic and a Shure lavalier. "The gear chain hasn't changed drastically from that," Nehs says, "but it's definitely more beefed up."

Nehs and Bross had the vision to start a full-service audio/video post-production facility in Chicago to go after the producers who would film in Chicago and then head to New York or L.A. for post. Nehs knew there was world-class post in Chicago, but most shops offered only certain segments, while the proposal for Periscope would handle everything, what Nehs has called "from dailies to delivery all under one roof."

So when Cinespace Chicago, a complex with over 1 million square feet of shooting stages, started looking at business plans to bring audio and post-production onto its campus, Periscope stood out for its holistic strategy. The space had to be completely renovated, but Nehs says he was getting calls from networks as soon as Cinespace chose them. The Cinespace affiliation has helped in securing jobs for clients like Fox, ABC, USA and other networks, and within 10 months of opening, Nehs already decided that it was time to grow.

Periscope will finish its expansions in July and will cover about 7,000 square feet of recording studios, control rooms, editing suites, color suites, a Foley room, a Dolby dubbing stage and more with designs by Kevin Rodgers of Karp Designs. Just about every space monitors through JBLs, including LSR305s in Nehs' editorial space and in the main room, LSR4326Ps for the two rear surround-sound satellites and LSR4328Ps for the three front mains.

"I'm in love with the JBLs," Nehs says. "Part of the reason is the sound quality, and it's really easy to tune a room with them. You just can't beat them for the money."

Periscope also uses John Hardy preamps throughout the facility. Their common vocal recording chain starts with a Neumann U 47 through an LA-2A to a John Hardy preamp and recorded with Pro Tools 11 HDX with Avid Xmon hardware and mixed on an Avid System 5-MC console.

With the expansion complete, Nehs says Periscope could handle working on 10 projects simultaneously with its 10 regular employees plus freelancers and outside talent. When Mix spoke to him, Periscope was working on The Blexicans sitcom pilot, full post for two independent features, dailies for a horror film by WWE Studios and was about to dedicate a whole space to season two of Fox's Empire.

Periscope had recorded more than 30 songs for Empire season one and also handled ADR. For the second season debuting this fall, Fox bumped it up from 12 to 18 episodes and doubled the amount of music. "They're going to need roughly 72 approved songs," Nehs says, "which means we'll record more than 100 tracks for them, all original."

For such a huge job, the show will bring in its own music producers, such as season one producer Jim Beanz, who will write the songs and get them pre-approved from the network. They'll then go to Chicago with the actors from the show for recording. "We take those tracks, ship them the same day for approval, and if they get approved, we go back into final mix," Nehs says. "Then we deliver it back to them with their stems, usually the next day. We've done turnarounds in as fast as 12 hours on original songs."

Even though Periscope is humming along consistently on some high-profile projects, Nehs says the biggest challenge is still getting the word out that Periscope has world-class, A-Z post-production in Chicago. "All my rooms are based off of rooms I've been in at different studios in L.A. I'm taking proven designs and replicating them here."

Periscope can entice some clients to stay in Chicago for post with its unique tax-assistance program, where they help clients maximize and navigate the 30-percent Illinois tax credit for producers working in the state and hiring local crews and talent. "We love to do it from start to finish," Nehs says. "We can save them time and money if we talk to them before they even start filming and put together a proper workflow.

"We're still young and growing," he continues. "If we need to expand larger down the road, I can carve out another 2,000, 5,000, 10,000 square feet-whatever I need." ■

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Tech // new products



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Any combination of up to two Mac, PC and iOS devices, as well as up to nine connected MIDI peripherals, can share iConnectAUDIO4+'s audio inputs, outputs and MIDI I/O. Features include four XLR/TRS combo analog in/outs, four microphone preamplifiers with 48V phantom power, 1/4-inch headphone output with independent mix, 1x1 5pin DIN MIDI I/O, audio mixing and routing between connected USB computing devices and analog outputs, and iConfig software (Mac, Windows, iOS), making it simple to set up filtering/routing/merging scenes, which are stored in flash memory on the device.



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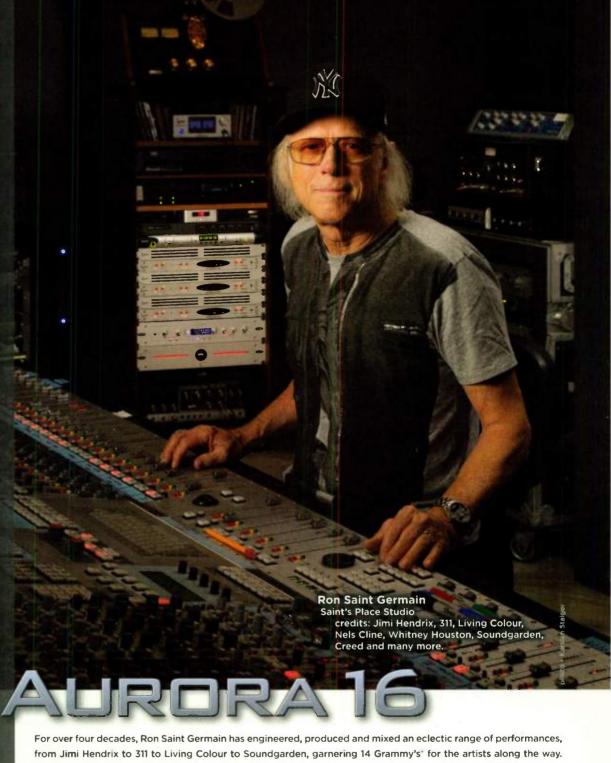
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For over four decades, Ron Saint Germain has engineered, produced and mixed an eclectic range of performances, from Jimi Hendrix to 311 to Living Colour to Soundgarden, garnering 14 Grammy's for the artists along the way. His converter of choice since 2008 at Saint's Place in northern New Jersey is a rack of Aurora 16HD converters. Aurora's clarity and transparent, open audio quality are a perfect match for his Neve Amek 9098i 128-channel mixing console and extensive vintage analog signal processing that are essential for Ron's exacting audio requirements.

To see and hear more about Ron Saint Germain and Saint's Place Studio,

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New Sound Reinforcement Products



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The Avid S6L (price per configuration) comes in three sizes: S6L-32D (32+2 faders, four 12.1-inch touchscreens), S6L-24D (24+2 faders, three 12.1-inch touchscreens), and S6L24 (24+2 faders, one 12.1-inch touchscreen). Knob modules feature high-resolution OLEDs and tri-color function indicator, while the Master Live Module offers graphic TFTs with soft buttons; Touch and Turn assignable encoder; two assignable faders; monitoring, layout and snapshot controls; transport controls; and function buttons. Metering is on 30-segment meters per channel with pre- and post-fade metering options; Nominal indicator, Expander/Gate status and Compressor/ Limiter gain reduction meters. I/O for all three includes eight XLR mic/line with 48V; eight XLR outputs; four pairs of XLR stereo AES/EBU I/O, two independent headphone outputs plus ancillary I/O including DVI-D video out, five USB 2 (two rear, two front, one internal), ECx Ethernet port for wired/wireless remote control, GPIO (eight in/eight out), two footswitch, Linear Time Code input, MI-Dl I/O, and Ethernet AVB ports.

DIGICO ORANGE BOX

Multi-Use 2U Format Converter

DiGiCo's new compact 2U Orange Box is a simple-to-use audio format converter with multiple options allowing users to use DiGiCo Multichannel Interface (DMI) cards to create audio paths between a variety of interfaces. The box features two power supplies and two slots to accommodate any of the 10 current interfaces available, including: Dante, Hydra2, BNC, CAT5, Optocore, Aviom, ADC, AES, DAC and SoundGrid. The simple plug-and-go design allows conversion between any of formats supported via the cards currently offered.



D&B MAX2 STAGE MONITOR

Two-Way Passive Unit

The latest d&b stage monitor (\$TBA) is a two-way passive cabinet housing a 15-inch LF driver and a coaxially mounted 1.4-inch HF compression driver. The driver arrangement uses a single magnet assembly, allowing for a compact cabinet design

with a low profile for strict visual demands. Manufactured from marine ply, the monitor is finished in an impact-resistant dark gray paint finish. The MAX2 provides a broad variety of deployment possibilities, whether used individually as a stage monitor, as a stand-alone full-range system, or, when combined with d&b subwoofers, as a drumfill.



ELECTRO-VOICE L SERIES MICROPHONES

Longer-Version of Trusted Classic

Electro-Voice has released extended-length ("L") versions of its classic 635 and RE50 dynamic microphones for field production. The 635L (beige finish, \$TBA), 635L/B (black finish, \$TBA), RE50L (black finish, \$TBA), and RE50N/D-L (black finish, neodymium capsule \$TBA). Each mic features an overall length of 9.5 inches and the

same legendary performance and durability as the original 635 and RE50 models. Features include robust design, internal shock protection and pop filters, omnidirectional polar patterns, and linear frequency response.

Continued from p. 55



Guitarist Mike Mushok of Saint Asonia (left) and producer/engineer Johnny K.

GROOVEMASTER RECORDING

Saint Asonia—a rock "supergroup" featuring lead singer Adam Gontier (formerly of Three Days Grace), guitarist Mike Mushok (Staind, Newsted), bassist Corey Lowery (Dark New Day, Stuck Mojo) and drummer Rich Beddoe (formerly of Finger 11)—worked on their debut record on Sony/RCA, with Johnny K producing and engineering, and Matt Dougherty assisting

and digital editing. The project was tracked in the Red Room, and vocals were done in the Cadillac Room. Johnny K mixed in the Cadillac Room...Ben Folds and yMusic (classical-pop sextet) are working on a live track for Folds' new full-length album, which features collaborations with yMusic. The project was tracked in the Red Room and engineered by Johnny K, with Gena Johnson assisting...Unlocking the Truth are tracking and mixing their debut record on Sony. The project was produced and mixed (in the Cadillac Room) by Johnny K and engineered by Johnny K and Kevin Germain, with digital editing by Dougherty...Urge Overkill worked on their new full-length album, with Johnny K producing (as well as the band), and vocal tracking and mixing by Johnny K in the Cadillac Room...The Art of Dying did production and rehearsing at Groovemaster for their new tour with Apocolyptica...Kobra and the Lotus worked on a special project to be released this summer, which was produced by Johnny K, engineered by Johnny K and Jasio Kulakowski. The project was tracked in the Red Room, and vocals and mixing were done in the Cadillac Room...Cilver is tracking their debut record, with Leon Lyazidi producing, Johnny K executive producing and mixing, and Chris Kress and Johnny K engineering. The project was tracked in the Red Room, and vocal tracking and mixing was done in the Cadillac Room.



Tony Allen at Fullerton Recording

FULLERTON RECORDING

Tony Allen was with the Chicago Afrobeat Project in Studio A, with Kevin Ford producing (CAbP also produced) and Ford and Xavier Galdon engineering...Phil Cohran Group was in Studio A, with Malik Cohran producing and Ford and Galdon engineering...Cornmeal worked on their

album Slow Street in Studio A, with the band producing and Ford engineering... Killah Priest worked on various singles for Revolutionary Music in Studio A, with Bryan Ford producing and Kevin Ford engineering...The Main Squeeze worked in Studio A on "Jungle Land" and "Comes a Time," with the band producing, and Kevin Ford engineering (Ford also produced)...Fullerton recently acquired a Kimball La Petite grand piano, a Dave Smith Instruments Prophet '08 analog synth, and a Nord Lead 4D keyboard.



GRAVITY STUDIOS

Gravity Studios collaborated with Memphisbased Visible Music College to record, mix, and master a five-song EP to launch their band's national tour in summer 2015. Band members from Visible's Chicago campus and Visible's record label, Madison Line Records, came to

Gravity in April. Gravity engineer, Sam Fell, was the primary recording engineer, and studio owner/producer/engineer Doug McBride co-produced, mixed and mastered the EP...Gravity's mastering clientele continues to expand, with new clients from Australia, New Zealand, Argentina, Brazol, Portugal, Nigeria and the Congo.





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STEINBERG CUBASE PRO 8

Upgrade Brings Increased Performance, Modified GUI and New Sounds



hich DAW is right for me? Updates, revisions, whole makeovers—is it time to jump? Steinberg has released the latest version of its acclaimed Cubase software, and there is certainly a lot to talk about. Let's take a look and see if Cubase Pro 8 is worth the upgrade, and if it's the DAW for you.

Right off the bat, Pro 8 is the first version of Cubase that allows complete independent docking and undocking of windows. Although you no longer need to stretch your main application across multiple screens, you now have a secondary window that unfortunately does not have minimize or maximize functionality. Although transparent (which conveniently lets you view your desktop underneath), there is no ability to access items beneath this window without bluntly dragging it around your desktop.

Another new feature is the Rack Zone, a large vertical sub-window to the right of your Project window that combines MediaBay and the VST Instrument Rack. While this is a convenient option, having a large static bar to the right of your track window may not be the layout you prefer. It would be better to be able to remove this permanently if so desired, versus undocking it or using the alt+T command.

The first of the new features that relates to performance is the redesign of ASIO-Guard latency engine (now ASIO Guard 2). As a direct improvement to the resource handling of your DAW, ASIO Guard 2 supports disk streaming instrument tracks, as well. The engine intelligently monitors your tracks, allocating resources where latency matters the most. This allows real-time monitoring on heavy projects without pops and clicks.

Another happy boost for performance is the new "render-in-place" function, which is a great way to swap your MIDI to audio without a cumbersome channel batch export.

The long-heralded Quadrafuzz has bowed on the plug-in stage in version 2, bringing warm, fuzzy, fat harmonic tones aplenty-this distortion plug-in is awesome. From a simple interface, it provides a surprisingly dynamic range

of tones. It would honestly be hard not to find a sound you like.

Multiband Compressor and DeEsser were both blessed with a sidechain feature. Expander and Envelope Shaper boast new multiband options, and DeEsser was also added as a channel-strip module. The Tuner plug-in was given a strobe mode and a larger window for improved visibility.

In addition to plug-ins, Steinberg has added some new content. Groove Agent SE 4 has drafted Acoustic Agent to the lineup of sounds, which is an acoustic set full of natural, organic-sounding drum samples. Allen Morgan Pop-Rock Toolbox is another new set of 30 construction kits, each with an abundant set of predefined audio loops.

It would appear that many of the Cubase 8 improvements are designed to help keep the creative juices flowing. The new Circle of 5ths and Proximity Chord Assistant modes provide visual assistance in making progression choices. Proximity Chord Assistant analyzes a defined reference chord, and visually displays relevant suggestions. These suggestions are then displayed within a standard Circle of 5ths relevant to the key you are working in. These modes tie directly into your chord pads, making composition a much easier task, particularly for those who aren't quite as musically inclined. I was surprised at how simple it was to start creating a track.

While dabbling with this new content, I took the new MIDI tempo detection for a test run. I found this new feature particu-

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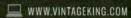
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larly useful when creating a piano track. I love to play piano, but am not necessarily a disciplined player, and when I play to a metronome, I tend to stiffen up. MIDI tempo detection allowed me to play freely, auto-detecting my tempo and making it easier to quantize post-performance by automatically lining my notes up with the grid.

One last addition is Virtual Bass Amp. Similar to the VST Rack for guitar, Virtual Bass Amp boasts a collection of amps and cabinets, microphone positions and stomp boxes that make for a nice plug-in.

Cubase 8 introduces Waves Meters to MixConsole, a feature also found in Cubase's big brother Nuendo. Waves Meters shows each track's waveform vertically above the appropriate mixer channel. The waveform scrolls in time so you can see what position in the song you are without having to switch views. On the downside, MixConsole can no longer be viewed in full-screen mode, which definitely affects the convenience of this add-on.

A few other tweaks to MixConsole are an improved channel-strip EQ and the addition of VCA faders. The improved EQ allows frequencies to be identified with their corresponding pitch note, which can be very useful in avoiding frequency conflicts. High-cut and low-cut filters on Pre also now have selectable slopes ranging from 6 dB to 48 dB per octave. VCA faders are not unlike the Link feature from 7.5, which allowed you to group and link channels. However, VCA functionality resolves prevents the gain structure of the linked channels from affecting the gain structure of effects sends, which was a major dilemma when linking channels in previous versions.

I reviewed 7.0 in March 2013, so I put up Cubase 8 to see how it mea-

sured up. As a baseline test, I referenced a score I had composed within Cubase 7.5 and charted performance levels.

Performance: CPU and Disk handling improvements were, on average, 8 percent to 12 percent better in Cubase 8, which provided enough headroom to dial back my hardware latency buffer from 1,024 to 512. ASIO Guard 2 isn't just a marketing spin; it definitely improves overall performance.

Workflow: The transition between Cubase versions on the same project was seamless, as was basic integration. Cubase's GUI has always been very conducive to an ergonomic workflow, but there are changes that took some getting used to. The addition of Rack Zone to the main project window, floating windows and the addition of Waves Meters to MixConsole would indicate a scenario where an end user has multidisplay real estate available for viewing. This is not always the case, and the fact that MixConsole can no longer go full screen seems counterintuitive.

Although there are some minor aesthetic and functionality flaws to be found in this latest revision of Cubase, there are far more compelling new features within Cubase 8 than qualms. Any DAW is not without its flaws, but the core competencies that Cubase is known for—performance, stability and versatility—remain intact and have been improved. The new content and improved audio engine alone make it worth the upgrade/purchase. However, I do hold Cubase to a very high standard, and being completely candid, on a scale of 1-10, I would give Cubase 8 an 8.

Jami McGraw is a NY-based engineer, musician and IT pro.



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nabled by faster, more powerful 64-bit computers and inventive algorithmic programming, a new breed of software audio processor opens wholly original and fresh approaches to audio signal processing. Eiosis AirEQ Premium and Sound Radix Drum Leveler both offer seemingly magical results not previously possible using any combination of software and/or hardware systems.

EIOSIS AIREQ PREMIUM

AirEQ Premium (version 1.0.22.3 for Mac tested here) is a multi-

channel equalizer plug-in with five bands of parametric EQ, each with identical frequency ranges of 10 Hz to 30 kHz, ±18 dB boost/ cut, and variable Q from 0.1 to 7.0 in two ranges. The three center bands are switchable between bell and steep bell types. The two outer bands are switchable between bell, shelf and steep bell shapes and can overlap to function as a tilt equalizer.

There are also high-cut (20 Hz to 30 kHz) and low-cut (5 Hz to 10 kHz) filters with selectable 6 or 12dB per octave curves and an adjustable Q range of 0.35 to 4.0. For these filters, Q governs the height and width of the resonant peak they exhibit just be-





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fore cutoff. I liked the euphonic-sounding single-knob Air band equalizer with its gentle Baxandall curve starting at about 1kHz. Air is "counterpoised" by Earth, a single-knob low-frequency EQ starting at about 200 Hz that emulates transformer phase behavior. I found it clever that each of the nine section bypass buttons have embedded drop-down menus for setting that section's particular behavior. I am also getting used to the Auto-On feature: Any EQ/filter section is automatically activated the moment I clicked on any of its parameter controls.

To keep track of all equalizers and filters deployed, AirEQ has a beautiful onscreen display with a real-time input/output spectrograph running behind color-coded EQ curves that match the highlighted surrounds of their respective parameter knobs. The algebraic sum of all EQ sections is graphically represented by a (switchable) solid white.

AirEQ also features the unique Character and Strength controls. The Character fader globally modifies the shape of all equalizer sections at the same time. Character does not affect the Air, Earth and the Hi/Lo Cut sections, and you can exclude any EQ section from Character's control and use the band's local character control instead. Character's default center-fader position is called Neutral for the default bell shape. As the Character fader is moved up toward the Fire position, the shape of all bands becomes more focused while being smoother at the top of the curve. As the fader goes toward Water, shape becomes fatter at the top of the curve.

The Strength fader functions like a wet/dry control—you can change the boost/cut values of all the sections at the same time. Strength changes are not indicated on the graphical display or the parameter knobs' positions (too bad), and you can exclude any section(s) from Strength.

I found after intensive microscopic EQ scrutiny and carving that I sometimes had overdone it—so backing down Strength from the center 100 percent (default) position usually fixed it. Strength ranges from 0 percent to 150 percent.

With a plug-in this deeply featured, all parameter ranges, control knob setups, GUI layout, unhide/hide the spectrograph, metering setup (including K-Metering), FFT analysis tweaks, snapshots, preset editing and naming happens within the plug-in's Preset Management and Configuration menus. Presets saved here can be used across different DAW platforms in your computer. In addition, AirEQ has the standard Pro Tools plug-in preset GUI framework, and all parameters can be automated.

INTO THE STUDIO

I liked to automate both the Character and Strength faders when dealing with problematic vocal tracks. For a couple of nasty peak frequencies on my singer's lead vocal track, I set up two narrow notches (344 Hz, @ -3.82 dB and 1.65 kHz @ -4 dB) and excluded them from the Strength fader.

My singer was dark-sounding in the song's verses but tended to be strident and overbearingly shrill in the choruses. So I set a 6.3 kHz +4 dB shelf, a 3 dB boost from the Air section, 12 dB/Oct @ 50 Hz from the Low Cut section (also excluded from Strength). In the verses I automated Strength fader high-

PRODUCT **SUMMARY** COMPANY: Eiosis LLC

PRODUCT: AirEQ Premium WEB: www.eiosis.com/aireq.html

PRICE: \$149 MSRP

PROS: A deeply featured and infinitely malleable EQ with low CPU load. CONS: No linear phase EQ sections.

TRY THIS

I got great results locating an annoying resonance frequency in a Moog bass sound. The spectrum analysis screen and the Band Solo mode quickly found the problem frequency that was easy to flatten out with a steep bell notch.

er and backed down in the choruses. For this vocal I found the Character control best set toward the Water end in the quieter verses—a smoother, more natural sound reminiscent of a Pultec EQ.

Next I tried AirEO Premium in M/S mode as a program EQ for "faux-mastering" of a stereo mix. By right-clicking on any section's bypass button, that section can be assigned to either Mid or Side in the M/S mode. By selecting Band Solo mode in Settings and shift-clicking a frequency knob, l could sweep up/down with max gain and sharp Q to verify "frequencies of interest" without affecting my previously set parameter values for that section. This is a smart feature.

In the Multi-channel Toolbar I soloed the Mid channel to equalize all center-panned audio by selecting two EQ sections. Soloing the Side, I selected and used a lot of the Air Band section and opened up the stereo width without phase issues.

When AirEQ is inserted into a multichannel stem, the process is similar: simply click to assign equalizer sections to set EQs: LR, LsRs, Center, or LFE channels with link/unlink option.

There are a lot of features packed into AirEQ Premium. It can be subtle, stealthy and beautiful-sounding or super-focused with surgical precision. It is not a linear phase EQ but uses minimal CPU, runs rock solid and sounds awesome.



Drum Leveler features high- and low-threshold settings, plus a sidechain switchable between bandpass and band-reject modes.

SOUND RADIX DRUM LEVELER PLUG-IN

Drum Leveler (version 1.1 tested here) is a beat detection-based downward and upward compressor/expander. It works its wonders in mono, dual mono, L/R stereo and M/S stereo tracks. By using a threshold "window" constrained by separate high- and low-threshold settings, Drum Leveler applies dynamic processing to individual transient events with minimal change to audio signals outside of the threshold window. For example, when placed on a live snare drum track, it can be set so that inter-drum kit bleed, ghost notes and room tone leakage are not affected. Or change a few controls and only the ghost notes and leakage are emphasized!

The Low Threshold fader acts like a typical dynamic processor threshold setting-signals above threshold are processed. The High Threshold control setting allows any signals above it to pass to the output without processing. The Target Level fader determines whether a detected beat is brought up or down in level relative to the low- and high-threshold settings and the setting of the single Compression/Expansion knob calibrated in +/- percentages.

If the instantaneous level of a share drum was 6dB above the target level setting and the compression knob was set to -50 percent (expansion ratio of 1:2), the snare drum level w ll jump up 3 dB. But if the snare was 6 dB below the target level (but above the low threshold), it'll be reduced by 3 dB.

The color-coded Compression/Expansion meter surrounding the Compression knob displays instantaneous gain boost in orange and gain reduction in light blue. This color scheme is copied in the real-time waveform display that parades right to left with the input signal shown in gray. I found both these displays essential for precisely adjusting Drum Leveler.

There are also other controls to tailor DL's action very specifically. Minimum Retrigger Time sets an elapsed time-masking period before DL

considers a new beat, Gain Range sets the maximum gain change applied to a beat within the set thresholds, and Hold and Recovery Time controls are analogous to expander/compressor release timing and have a great influence on the finished sound.

I loved the sidechain filter. It's switchable between bandpass and band-reject modes—both with very steep curves. You can sidechain listen and set the high- and low-frequency range using "handles."

New with this version is a Sensitivity control for adjusting DL's beat detector sensitivity (I found the default fine), and Gate Range is a particularly interesting parameter for controlling the level that has not passed

PRODUCT SUMMARY

COMPANY: Sound Radix

PRODUCT: Drum Leveler
WEB: www.soundradix.com
PRICE: \$149 MSRP
PROS: Awesome and unique
dynamics processor.
CONS: It has a learning curve—
start with a preset.

TRY THIS

While sound designing with Drum Leveler, I had a synth track that played a twonote quarter-note trill but also sustained a chord between the notes. I went with
100-percent expansion, increased the
Sensitivity to 49, Recovery to 168 ms for
the length of each note, set Gate Range
to -23 dB, Gain Range to 80.0 dB, and
finally used a very narrow band reject
sidechain filter setting at 987 to 2206 Hz.
This reduced the two-note trill with sustain to a single quarter-note with sustain
level greatly reduced.

the low threshold and beat-detection algorithm.

For envelope-follower effects, the new external sidechain input is for superimposing the dynamics of a drum track (or any other percussive track) when DL is placed onto other track(s) in your mix. The external sidechain can be selectively engaged on either side of a stereo track or the Mid and Side tracks, enabling cool effects such as expanding the overheads' side channel only with each snare hit.

I played a live (recorded) drum loop through Drum Leveler in which the snare level was higher than the kick drum level. I set the sidechain filter to accept only from 141 Hz down—the kick drum frequencies. I set the Low threshold to -22 dB and the High threshold to -9.8 dB and Target Level to -41 dB. Out of solo and listening to the track, I adjusted the Gate Range to -42 dB and Recovery to 339 ms—the length of the extracted kick drum—to fit within the track. It sounded clean and compressed to a consistent loudness at the same time. There was another loop in this track that I reanimated its dynamics so that every downbeat was now louder. This sure beats chopping in Pro Tools.

I was able to setup a preset to boost only the transient attack part of a bass guitar track by setting the high threshold to -8.7 dB, low threshold to -31.6 dB, hold time at 32 ms, and recovery at 5 ms. Next, I adjusted the sidechain filter to bandpass frequencies from 380 Hz to 1070 Hz (attack part of the bass), which gave me a very consistent attack. This is not like just compressing with a slow attack time—the attack level can be very loud if you want and the rest of the tone of the bass is not squashed out.

Drum Leveler is a worthwhile plug-in to learn and use in mixing and sound design. There is nothing like it that I know of that works so well and reliably. Highly recommended.





KUSH TWEAKER SIDECHAIN SHAPING COMPRESSOR

Parallel Squasher With Advanced Functions



The Tweaker offers a range of uncommon controls like a tilt EQ in the sidechain (Contour), and a shared Ratio/Knee control.

nce in a great while you come across a piece of gear that challenges not only your experience with its main function, but also its user interface design. The Kush Tweaker is such, taking liberties in both how it delivers compression, but also how you set the various buttons and pots to get there.

It's a single-channel/rackspace hardware compressor that brings a lot to the table. The input stage, sidechain, release and ratio/knee are all dressed up in new clothes, allowing you to shape the output in many different ways. I had a pair for this review that l was able to use on many different sessions and applications with varying degrees of success and pleasure. Fit, finish and electronics are top-notch with solid, detented rotaries (a must on this unit), and bright LEDs and switches that you can bet will last.

FEATURES

The best way to learn the Tweaker is to forget about anything else you know about setting up a compressor. That sounds ridiculous, but if you start with a fresh mind and no expectations, or at least try, you'll save yourself hours of frustration. This is because nothing is as it seems. For example, the manual states: "It is critically important to understand that the Output control does not adjust the overall output level of the compressor." Instead, Output controls the amount of wet signal being fed to the Mix knob, which sets the wet/dry balance. From there, Mix and Output work together in a seesaw relationship, providing the only way to adjust overall output. Throughout my time with the unit, I found myself wishing for one more knob at the end of the signal flow for adjusting level.

Much like Empirical Labs Fatso Jr. or Doc Derr, the Tweaker can be used as a saturator/warmer without having the compressor active. I achieved this by setting the Sidechain control to XLR Insert (with nothing patched to the insert), which negates the compressor. Then, by boosting the drive and playing with the Mix v. Output controls, I was able to blend varying levels of VCA grease (distortion) to the signal at varying output levels. Fun and useful for sure.

The Sidechain section is my favorite part of the Tweaker and is like nothing I've seen elsewhere. Threshold is as you would expect; no surprises there. Hard left sets the threshold to the dB roof (less compression), while hard right brings it to the basement (more compression). The sidechain control has six positions: XLR-Insert ports any OB gear patched at the back into the detector. The onboard sidechain is so powerful I don't know why you'd want to use this feature.

Next is Edge Contouring, which engages a dual-shelving EQ, one low and one high, which move in opposition to one another. As one goes up, the other goes down. Moving left gives you more low-end compression and the opposite happens when the control is moved to the right. Treble Smash reduces the top end of any signal. I used this to tame an annoying tambourine that needed to be smoothed and set down in the mix. The next two stops are more standard settings putting either a 300Hz or 60Hz HPF across the signal. I successfully used this for removing plosives on a lead vocal. Last on the dial is Flat,

which bypasses the sidechain features completely.

The meters are novel, with input and output feedback offered by a range of LEDs arranged in a circle, while gain reduction is displayed by six vertical LEDs right up the middle. While I can see these being useful in this array, I found myself not using them after a while. In-

TRY THIS

Set the Tweaker's sidechain control to Flat and play with the Drive v. Mix v. Output controls. These three give you the ability to add gritty distortion to any signal. After you have this set, engage the compressor's sidechain using any of the four other functions like Treble Smash. Edge Contour and more.

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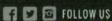






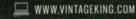












put and output fill up too fast for my taste, and there is no reference to anything in the outside world (aka dB). I understand this is by design but I found my ear to be a better guide of what's going on than the meters.

My opinion of the meters was cemented when I strapped two Tweakers together using a TRS cable and put them across a stereo bus I was using for parallel drum compression. The Tweaker's meters showed absolutely even I/O level and reduction across both units, which

was not apparent to my ears or proved by the console's analog meters. By the way, the Tweaker sounded excellent in this application. I was able to almost infinitely change the flavor of the parallel crush by using the Sidechain, Threshold and Mix functions along with the Attack, Release and Dual v. Fast buttons.

The last section is Attack, Release and Curve. Attack ranges from 20 microseconds to 70 milliseconds, allowing you to top off the most aggressive transient or to open the door wide and let even the longest attack through. The Release control is dependent on the Fast v. Dual button just above. With the button down, the release is linear, while the Dual mode introduces a second release stage at one-tenth the speed of the first. The first half of the gain reduction is released quickly while the second half is let go more slowly, emulating an LA-2A's release behavior. Curve offers control over ratio and knee at the same time. All the way left is 2:1 at a soft knee, with the ratio and knee increasing to 30:1 and hard at the right-most setting.

HOW IT WORKS

To fully understand the Tweaker, it's important to grasp how the VCA applies compression and distortion to the signal at the same time. This is helpful when dealing with high-transient material that you wish to add some grit to, without it sounding so. For example, you can drive a snare hard into the Tweaker to the point where it's lightly breaking up, then by adding a touch of compression, you can reduce the grit at the peak

PRODUCT SUMMARY

COMPANY: Kush
PRODUCT: Tweaker
WEBSITE: houseofkush.com
PRICE: \$1,495
PROS: Versatile, groundbreaking, and great-sounding personality compressor and saturator.
CONS: Steep learning curve, poor documentation.

while still maintaining thickness. I found this useful when compressing a strong male vocalist who had a habit of riding the mic close when he sang hard. By setting up the Tweaker in the way described above, the distortion became less apparent as the compression was applied. This is a great feature that caused me to think differently about how I applied compression to more dynamic material.

After a month with my review Tweakers, I was able to meet up with Gregory Scott at a

trade show where I saw him quickly go through a range of setups like no one but the creator could muster. Before meeting Gregory, I'd been frustrated by the manual and controls. Just watching him take the Tweaker through its paces helped put it into perspective.

The Kush Tweaker is a piece of gear you will grow into. It offers new and nontraditional approaches to adjusting many of the usual compression parameters you're used to. This is all good. Any gripes I have about the Tweaker are minor. I didn't find the meters to be useful at all and gave up on them after a time. The manual meanders between self-congratulation, Truth v. Hype, and unnecessary Tweaker back story, where it should spend more time schooling users on how to get what you want out of the Tweaker. But not to worry, Tweaker creator Gregory Scott does an excellent job at this in his Vimeo videos and downloadable presets on the Kush website.

While the Tweaker can sound like some other compressors, it is not an emulator—even the manual cops to the fact that the Tweaker clones behavior more than tone. I found the tone to be useful over a range of applications, including electric guitar, dynamic vocals, parallel drum crush and percussion. Because most controls have a relationship with others, or a function not readily apparent in the name (Edge Contour, Dual), expect to spend some time getting to know the Tweaker. If you buy one, bring lunch; this one will keep you occupied for hours, in a good way.

Kevin Becka is Mix's technical editor





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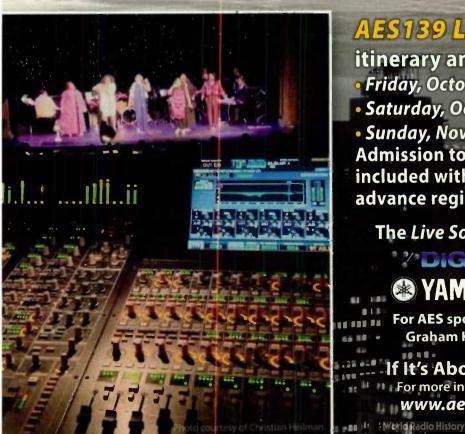
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Marketplace



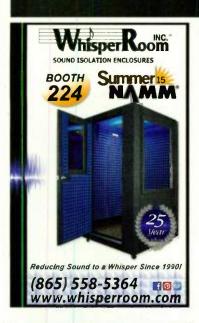




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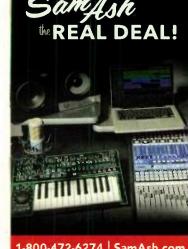
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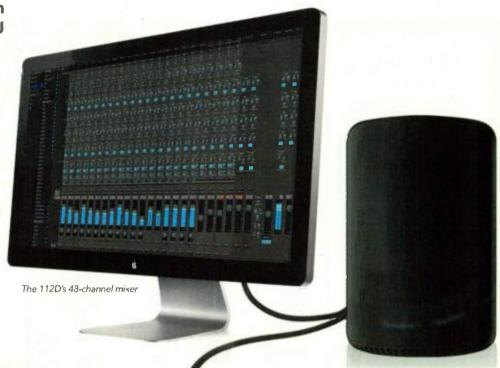
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RobairReport

CLASS OF 2015: YOU'RE ON YOUR OWN, KID



By Gino Robair

[Editor's note: Kevin Becka, whose Tech Talk column usually occupies this space monthly, is taking the month off to prepare for next month's A3E conference.]

always look forward to reading Mix's "Class Of" issue. Not only is it fun to geek out on the latest studio designs around the planet, but it serves as a reminder that we have not seen the end of the pro studio, despite the dire predictions.

Of course, what constitutes a pro studio has changed dramatically over the years, and purpose-built personal studios are increasingly taking up the slack left by larger ones. Yet, no matter how big a studio is, it's just as tough to keep the lights on as the challenges of monetizing music increase.

Meanwhile, recording arts programs churn out legions of qualified engineers, many of who are in search of that killer studio gig. The awaiting reality for those aspiring to record, mix or master is not unlike the fate of the men and women earning a baccalaureate in a liberal arts subject that isn't on Forbes' radar: If you're one of those people stepping out into the sunlight, ready to take on the world with your newly minted pro-audio skills, well, you're on your own, kid.

But don't let that spoil your buzz about the recording industry. Despite what you see elsewhere in these pages, much of the audio business has comfortably regressed into the informal aesthetic of its youth, with important music being captured in places that were not tailor-made for recording, just as in the early days of the industry.

And while nothing can beat a well-tuned room for tracking and mixing, you don't need a million-dollar space to do good work or make a living. Furthermore, buy the best gear you can afford, but don't let mid-priced mics and preamps keep you from capturing a magical moment or helping someone realize their dreams of making a record.

Despite it being easier than ever to assemble a studio full of gear (a few clicks online and you're done), as a member of the Class of 2015 you will have to work harder than your predecessors to get the experience needed to make a good living throughout your life. Fortunately, the work is out there. Those who are the most engaged in their craft will go the furthest.

And because the jobs are increasingly being done in a freelance capacity, it helps to be a jack-of-all-trades and a master of something. Very often that mastery is the reward for putting in countless hours on a gig that you probably fall into accidentally—a common payoff in a career that is, at best, non-linear. Look for those opportunities to stretch yourself and revel in them.

Consequently, tomorrow's audio professional must be nimble (to use tech-industry jargon) if he or she wants to be working 20 years from now. The volatility of the freelance biz means you have to be ready for anything. When students ask me where the gigs are, I tell them everywhere-sound for picture, game audio, and concert sound, in addition to basic recording, mixing, and mastering. The fundamentals are the same no matter where you go. Find that niche if you can, but be ready for change because it's the only constant.

Above all, don't let the naysayers fool you into thinking there is no money in this business. It's there for those who look for it. Become a badass at what you do and the work will find you. I see this everywhere in our industry.

So, study the recording facilities in this issue, then remind yourself that it's not about working in a multimillion-dollar room with vintage mics at your disposal. It's about the craft. It's about the personal connections you make. And it's about helping other people sound amazing with whatever talent they have and whatever tools you can afford.

Consider this year's batch of personal studios: They were built for people who started out in much humbler digs and still managed to become successful. And while your first, second or third studio might not be as highfalutin as what's listed here this month, the body of knowledge required to design a studio doesn't change depending on its cost: The same rules of physics apply. Yours should be the best you can build within your means, while keeping an eye open for ways to improve it.

For example, rather than purchasing a pre-configured pack of acoustical treatment and slapping everything up to match the picture on the box, do your homework and find out exactly what your room needs in order to function at a professional level. If you have to, pay for a consultation with a studio designer. At the very least, he or she will give you a list of things to consider. And that information will not only help you in this particular room but with every space you occupy in the future.

So, you're on your own, kid. But look at it as an advantage you will have over earlier generations. You will have to make do with a lot less of some things (fewer full-time jobs, less mentorship) while having more of others (low-cost equipment). As you build a broad enough skill set to survive a future of new technologies and emerging job opportunities, every hurdle you tackle on your own makes you that much stronger.



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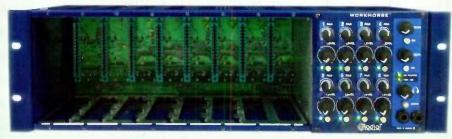
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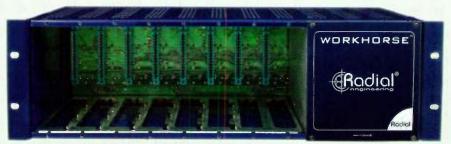


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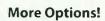






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